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WORLD DATA CENTER A
Oceanography



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CATALOGUE OF DATA
CHANGE NOTICE NOS. 42 and 43

WDCA-OC-89-1

World Data Centers conduct international exchange of geophysical observations in accordance with the principles set forth by the International Council of Scientific Unions. WDC-A is established in the United States under the auspices of the National Academy of Sciences.

WORLD DATA CENTER A
Oceanography



CATALOGUE OF DATA

CHANGE NOTICE NOS. 42 AND 43
(1 JANUARY- 31 DECEMBER 1988)

WORLD DATA CENTER A
Oceanography
Washington, D.C.

December 1989

ABSTRACT

This change notice lists and describes all data received by WDC-A, Oceanography during the period 1 January - 31 December 1988. It supplements the original six-volume Catalogue of Data, which includes Change Notice Nos. 1-16. The types of data catalogued include oceanographic station data, bathythermograph data, current measurements, biological observations, meteorological observations, and sea surface measurements. An Alphabetical Index of ship names and a Geographical Index of ocean areas assist the user in selecting the required data. Publications are cross referenced by accession number with the WDC-A Catalogue of Accessioned Publications.

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FTS 320-5311

ROCKETS AND SATELLITES:

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PREFACE

The six-volume Catalogue of Data and the loose-leaf Change Notice Nos. 1-16, which have been integrated into the Catalogue, now list all oceanographic data received by World Data Center A, Oceanography, from July 1957 through June 1975. The Catalogue has a loose-leaf arrangement of sheets, which have been punched for standard three-ring binders. It includes station location charts for many cruises.

Beginning with Change Notice No. 17, each Change Notice is printed in a modified format as a separate, bound publication describing all data received during a particular six-month or one-year period. The six-volume Catalogue of Data, including Change Notice Nos. 1-16, continues to serve as a reference volume for data received from July 1957 through June 1975. Provision has been made in the modified format for correlating newly received data for a particular cruise with data previously received for that same cruise and already described in the original six-volume Catalogue, including Change Notice Nos. 1-16.

The capability for identifying those data, which have been machine-processed by a national, regional, or responsible national oceanographic data center, has been retained in the modified catalogue format. In addition, this format provides a column for listing the catalogue number from the WDC-A, Oceanography, Catalogue of Accessioned Publications, thus identifying the published report in which the referenced data appear.

Data gathered before the beginning of the IGY in 1957 are not usually catalogued by the World Data Centers. However, extensive collections of pre-IGY oceanographic data gathered by various countries are available through the facilities of this Center. These data for the most part are oceanographic serial station data, surface and related data available in automated form. Machine listings and magnetic tapes containing these data can be prepared upon request.

WDC-A, Oceanography, welcomes suggestions for improved ways to present information in the Change Notices to the Catalogue of Data. It will make every effort to promptly correct any cataloguing error or omission brought to its attention.

INTRODUCTION

The World Data Center system was established in 1957 to collect data from the numerous and widespread observational programs of the International Geophysical Year (IGY) under the principles set forth by the International Council of Scientific Unions (ICSU) and to make such data readily accessible for an indefinite period of time to interested scientists and scholars. The system consists of World Data Center A (WDC-A) located in the U.S.A.; WDC-B located in the U.S.S.R.; and WDC-C located in Western Europe and Japan. WDC-A is established under the auspices of the U.S. National Academy of Sciences, where the Coordination Office is located. WDC-A is divided into nine discipline subcenters whose addresses are given on pages iv and v. These centers are located in institutions which, in the opinion of the Academy, can best serve the interests of science because of their data-handling capabilities for the appropriate scientific disciplines. WDC-A, Oceanography, is collocated with the National Oceanographic Data Center (NODC) in Washington, D.C.

After completion of the IGY programs, ICSU delegated the responsibility for the operation of the World Data Centers to its Comite International de Geophysique (CIG) and subsequently to the ICSU Panel on World Data Centres. The framework for continued international exchange of oceanographic data is set forth in ICSU's Guide to International Data Exchange through the World Data Centres and the Intergovernmental Oceanographic Commission's (IOC's) Manual on International Oceanographic Data Exchange.

The types of oceanographic data desired for inclusion in the World Data Center system are those from Declared National Programs (DNP's) and international cooperative expeditions. DNP's are those for which a nation intends to exchange the resulting data internationally. Data are to be exchanged internationally in accordance with provisions of the IOC's Manual and the ICSU Guide. Lists of National Oceanographic Programs (NOP's) are compiled by the various national committees on oceanography and submitted to the Intergovernmental Oceanographic Commission for dissemination.

Contributors of oceanographic data to the World Data Center system and national committees on oceanography are urged to compare the Catalogue of Data with their declared national programs published in IOC information documents to determine whether the cruises actually completed agree with those listed and to ensure that the data resulting from them are transmitted to the World Data Centers in the manner prescribed by the IOC Manual and the ICSU Guide. Data need not be limited to those represented by DNP's or NOP's; WDC-A, Oceanography, welcomes additional data that fall within the framework of the ICSU Guide and the IOC Manual and that contributors may wish to include in the World Data Center system.

HOW TO USE THE CHANGE NOTICE TO THE CATALOGUE OF DATA

Catalogue Numbering System

The catalogue numbering system uses groups of numbers and letters to designate identifying references for purposes of data archiving and retrieval. A catalogue number consists of numerals for the assigned: series, country, institution, ship and cruise.

Series -- The catalogue numbering system is divided into basic groups called series. At present, these consist of the 100 series for data from ships and other mobile platforms and the 200 series for data from shore and fixed stations in the following categories:

- a. Coastal and island stations.
- b. Near shore manned stations; i.e., lightvessels and platforms.
- c. Offshore manned stations; i.e., ocean weather ships.
- d. Unmanned stations; i.e., automatic buoys.
- e. Stations on shipping routes.
- f. Offshore reference stations visited regularly.
- g. Cables in use for oceanographic observations.
- h. Repetitive drifting observations; i.e., ice islands, drifting buoys.

Country -- A list in the Indexes section includes all countries and institutions from which this Center has received data during this period together with their discrete identifying numbers. The series and two-digit country number comprise the first three digits of the catalogue number.

Example: For country number 1, Argentina, data from ships and mobile platforms are catalogued as 101, and data from shore and fixed stations as 201.

NOTE: The designations of countries used in this catalogue do not imply the expression of any opinion whatsoever on the part of this Center concerning the legal status of any country or territory, or of its authorities, or concerning the delineation of the frontiers of any country or territory.

Institution -- An institution which contributed data, either directly or through its designated national agency or national, regional or specialized oceanographic data center, is assigned a decimal number following the series/country number.

Example: The number 101.01 is assigned to data taken by ships and mobile platforms and received from the Argentine Servicio de Hidrografia Naval, and the number 201.01 is assigned to data taken at shore and fixed stations and received from the same institution.

Ship -- Each ship, or in some instances a group of ships operating together, is assigned a letter following the series/country/institution number. The letter is followed by a number assigned to the particular cruise as the data are received.

NOTE: The term "cruise" is used in this catalogue to define, whenever possible, the beginning and ending dates of a series of data collected by a ship, usually identified by the contributing institution with a cruise name and/or number. Sometimes it is necessary to group together several series of data from one or more ships under one catalogue number.

Example: The first cruise data received from the Argentine Servicio de Hidrografia Naval are from the ship CAPITAN CANEPA, which is assigned the letter A, followed by the number 01, thus A-01; the second cruise is A-02, the third A-03, etc. Thus, the catalogue numbers 101.01 A-01, A-02, A-03, etc.

A similar system is used in the 200-series for ships but is not applied to lightvessels and fixed shore stations; for the latter the ship/cruise identifier is omitted. For these categories, the series/country/institution numbers are given, but the lightvessel's or station's name must be added instead of the ship/cruise number to complete the catalogue identification.

Example: The Canadian station at Triple Island is identified as: 206.03 Triple Island.

A shore station is listed under the country in or near whose territory it is located. If observations are carried out and the data contributed by an institution of another country, the observing country's name and institution are listed after the name of the country of location.

How to Use the Alphabetical Index

1. Look up the name of the ship or fixed station in the Alphabetical Index where the related country/institution/ship catalogue numbers are listed.
2. Look up, under the respective countries, the indicated Catalogue Numbers.

How to Use the Geographical Index

1. Obtain the geographic area number and name from the Geographical Index Charts.
2. Look up the list of catalogue numbers of available data for the area in the Geographical Index.

3. Use these catalogue numbers to locate information about the types and amount of data available.

How to Obtain Data from WDC-A, Oceanography

When communicating with the Center for additional information concerning data, always refer to the specific catalogue numbers for data of interest to you. The catalogue numbers are designed to speed the identification and retrieval of the information or data you need.

Address all correspondence to:

Director
World Data Center A, Oceanography
National Oceanic and Atmospheric Administration
Washington, D.C. 20235, U.S.A.

If you telephone, the area code is 202.

The Director's number is 673-5546.
The Associate Director's number is 673-5571.
The Data Archives number is 673-5571.

If you wish to visit the Center, its office hours are from 6:30 a.m. to 4:00 p.m., Monday through Friday. The Center is not open on Saturdays, Sundays, and U.S. national holidays. If you wish the use of study space, you should, if possible, give the Center a day or two advance notice so that necessary arrangements can be made. There is no charge for the use of study space.

Data Exchange Policy of World Data Center A, Oceanography

World Data Centers are held responsible for the provision of data and information to qualified requesters in the scientific community either in exchange or at a cost not to exceed that of processing and shipping. Unless a requester specifies otherwise, the Center is responsible for using the method which most satisfactorily reproduces the data or information item at the least cost. For certain types of requests, limitations in funding, personnel, or facilities may preclude direct or free provision of data or information by the World Data Center.

Data exchanges between WDC-A, Oceanography and WDC's in the same discipline usually take place without charge for routine exchanges of mutually agreed-upon types of data received by WDC-A in internationally-approved data exchange formats and in readily reproducible media forms. Non-standard data types are not normally exchanged. The ICSU Panel has now recognized that it is not always economically feasible to copy large data sets from one WDC to another. For certain types of data, the exchange of inventories of available data in a WDC subcenter may be considered acceptable in lieu of the transfer of the actual data sets.

In general, reasonably-sized requests from national or regional contributors to WDC-A, Oceanography may be considered as exchange, and equivalent data thus provided to the requester without charge. For requests for unusually large amounts of data, for specially formatted data, for derived data products, or for data to be obtained from outside the WDC system, WDC-A will normally be required to recover the costs of processing and shipping, or, at its discretion, may arrange for the request to be serviced by an RNODC or a regional, national, or disciplinary center. WDC-A may serve as an intermediary or coordinator for requests for unique types of data or data in other disciplines by placing the originator of the request in contact with the appropriate institution or disciplinary center.

Normally, WDC-A, Oceanography considers its data exchange commitment with a cooperating Data Center to be limited to the servicing of those requests or routine updating requirements intended to build or enhance standard data bases operated by that Center for specific, mutually agreed-upon data types and geographical areas of national or scientific interest. If the availability of funding and resources permit, WDC-A also attempts to assist such cooperating Data Centers when they require special data sets for institutions that are performing project-related research for international climate and global change programs and/or that have historically contributed data to WDC-A, Oceanography through that Data Center. WDC-A, Oceanography is obliged, in any case, to follow the exchange and cost recovery policies of its sponsoring (funding) government agency, while attempting to maintain consistency with data exchange guidelines of the ICSU Panel on WDC's as published in the ICSU Guide.

Data and information may be requested from WDC-A, Oceanography through NODCs, Designated National Agencies, or any other organization identified by national or international initiatives as responsible for communication with the World Data Centers. These materials may also be requested directly from WDC-A, Oceanography. Organizations, institutions, or individuals from Member States of the IOC may apply to the IOC Secretariat or UNESCO for possible assistance in funding their projects.

Data Centers or institutions in the international community that have acquired an automated data set or specialized data product from WDC-A must be aware that the original data set may be updated from time to time, errors corrected, or spurious data deleted by the originating data center. Where duplicate data sets are deliberately held in this way, the holder is responsible for making regular contact, as required, with the originating center to check whether the old data set is still valid, whether it should be deleted, or whether new data are available. WDC-A bears no responsibility in the conduct of these arrangements, except as regards the provision of information in its role as a coordination and referral center.

Acknowledgment of Data Sources

In many instances, data contributed to the Center are unpublished at the time of receipt. Unpublished data can be identified in the Change Notice by the absence of a publication number in the column entitled Data Center Reference Number. Accordingly, as stipulated by the Guide, recipients of copies of such data from the Center are reminded that the rights of the original investigators must always be respected. Thus, it is requested that if any data supplied by Center are published, due acknowledgment be made of the institution which undertook the original observations. To facilitate proper acknowledgment, the Change Notice indicates the originating institution.

PART I
CATALOGUE INDEXES

EXPLANATION OF THE ALPHABETICAL INDEX OF SHIPS AND FIXED STATIONS

This index presents in alphabetical order the names of the ships, lightvessels, platforms, and shore stations that are listed on the Data Information sheets.

Ship or Fixed Station -- The name of the ship, lightvessel, platform, lighthouse, shore station, etc. Names of ships and lightvessels are given in capital letters, with lightvessels identified by (LV) after their name. All others not so identified are shore or other types of fixed stations.

Country -- The name of the country that used the ship to collect data, or the name of the country in or near whose territory fixed oceanographic stations observations were made. If the data were collected by an institution of another country, the contributing country is listed after the one where the observations were taken.

Catalogue Number -- The country and institution numbers and ship letter assigned to each ship are given in this column to facilitate locating data information in the catalogue.

EXPLANATION OF THE GEOGRAPHICAL INDEX

The Geographical Index is based on the divisions of areas shown on the three charts immediately preceding the Index. These divisions are defined in "Limits of Oceans and Seas," Special Publication No. 23 of the International Hydrographic Bureau, third edition, Monaco, 1953. To define the extensive areas of the Atlantic, Indian, and Pacific Oceans more specifically, the following subdivisions have been added:

23 - <u>North Atlantic Ocean</u>	57 - <u>North Pacific Ocean</u>
23a - Northeast Atlantic	57a - Northwest Pacific
23b - Northwest Atlantic	57b - Northeast Pacific
32 - <u>South Atlantic Ocean</u>	61 - <u>South Pacific Ocean</u>
32a - Southeast Atlantic	61a - Southwest Pacific
32b - Southwest Atlantic	61b - Southeast Pacific
45 - <u>Indian Ocean</u>	50 - <u>Southern Oceans</u>
45a - Northwest Indian	South of latitude
45b - Northeast Indian	50° South
45c - Southwest Indian	
45d - Southeast Indian	

The catalogue numbers of ship cruises extending into any of the areas, or shore or fixed stations located in the areas, are listed under the area's number and name.

ALPHABETICAL INDEX

SHIP OR FIXED STATION	COUNTRY	CATALOGUE NUMBER
- A -		
AICHI MARU	JAPAN	124.27 A
AKADEMIK KOROLEV	U.S.S.R.	137.06 H
AKADEMIK KURCHATOV	U.S.S.R.	137.01 H
AKADEMIK SHIRSHOV	U.S.S.R.	137.06 C
AKI	JAPAN	124.23 A
ALEXANDER AGASSIZ	U.S.A.	139.08 H
ALFRED NEEDLER	CANADA	106.11 V
AMAGI MARU	JAPAN	124.05 B
ANDRE NIZERY	FRANCE	113.03 J
ANTON DOHRN	GERMANY (Federal Republic)	114.02 C
		114.06 B
		114.07 A
		114.11 A
AOMORI MARU	JAPAN	124.27 A
ARCTIC IVIK	CANADA	106.22 T
ASAMA MARU	JAPAN	124.05 B
ASHU MARU NO. 2	JAPAN	124.27 A
A. T. CAMERON	CANADA	106.11 C
AZUMA	JAPAN	124.21 A
- B -		
BAFFIN	CANADA	106.09 C
BORKUMRIFF (LV)	GERMANY (Federal Republic)	214.01
Buoy	JAPAN	224.09
BUSAN 852	KOREA	143.02 T
		243.01 C
BUZEN	JAPAN	124.23 A
- C -		
CHALLENGER	UNITED KINGDOM	138.10 A
CHARLES DARWIN	UNITED KINGDOM	138.10 B
CHIBA MARU NO. 2	JAPAN	124.05 B
CHISHIO MARU	JAPAN	124.27 A
CHOFU MARU	JAPAN	124.10 D
CHOKAI MARU	JAPAN	124.27 A
CINDY ELIZABETH	CANADA	106.10 I
Coastal and Light Stations	CANADA	206.08
- D -		
DAVID PHILLIP DOLPHIN	U.S.A.	139.08 X
DAWSON	CANADA	106.09 I
DELAWARE II	U.S.A.	139.23 P
DEUTSCHE BUCHT (LV)	GERMANY (Federal Republic)	214.01
DISCOVERY	UNITED KINGDOM	138.05 B
- E -		
ECHIGO MARU NO. 18	JAPAN	124.20 F

ALPHABETICAL INDEX

SHIP OR FIXED STATION	COUNTRY	CATALOGUE NUMBER
EHIME MARU	JAPAN	124.27 A
EIFFEL	FRANCE	113.03 L
EITOKU MARU	JAPAN	124.20 A
ELBE 1 (LV)	GERMANY (Federal Republic)	214.01
ELLEN B. SCRIPPS	U.S.A.	139.08 M
ENDEAVOUR	CANADA	106.22 A
ERNST KRENKEL	U.S.S.R.	137.06 Q
ESAN	JAPAN	124.13 B
ETIZEN	JAPAN	124.13 B
ETSUZAN MARU	JAPAN	124.27 A
EVRIKA	U.S.S.R.	137.10 KK
- F -		
FADDEI BELLINSHAUSEN	U.S.S.R.	137.15 B
FRITHJOF	GERMANY (Federal Republic)	114.01 S
FUKUI MARU	JAPAN	124.22 A
FUKUSHIMA MARU	JAPAN	124.27 A
FUNAKAWA MARU	JAPAN	124.27 A
FUSAMI MARU	JAPAN	124.05 B
FUSAMI MARU NO. 2	JAPAN	124.05 B
- G -		
GADUS ATLANTICA	CANADA	106.09 AA
GANGWON 854	KOREA	143.02 S
GANGWON 867	KOREA	143.02 X
GAUSS	GERMANY (Federal Republic)	114.01 C
GAUSS II	GERMANY (Federal Republic)	114.01 Q
GENKAI MARU	JAPAN	124.19 B
GENYO MARU	JAPAN	124.27 A
GYUNGBUK 853	KOREA	143.02 U
- H -		
HAKUCHO MARU	JAPAN	124.21 A
HAKUHO MARU	JAPAN	124.24 B
HAKUSAN MARU	JAPAN	124.22 A
HAKUSHIN MARU	JAPAN	124.20 E
HAYASUI MARU	JAPAN	124.23 A
HAYATE	JAPAN	124.23 A
HECLA	UNITED KINGDOM	138.02 F
HEIAN MARU	JAPAN	124.22 A
HINOKUNI MARU	JAPAN	124.19 B
HIYAGI MARU	JAPAN	124.27 A
HOKKO MARU	JAPAN	124.20 A
HOKUHO MARU	JAPAN	124.27 A
HOKUSEI MARU	JAPAN	124.02 C
HOKUSHIN MARU	JAPAN	124.20 A
HOKUYO MARU	JAPAN	124.20 A
		124.20 G
HOYO MARU NO. 12	JAPAN	124.21 A

ALPHABETICAL INDEX

SHIP OR FIXED STATION	COUNTRY	CATALOGUE NUMBER
HUDSON	CANADA	106.09 F
HYOGO MARU	JAPAN	124.23 A
- I -		
INCHEON 866	KOREA	143.02 Y
ISAZU	JAPAN	124.13 B
ISLAS ORCADAS	ARGENTINA	101.01 I
ISOKAZE	JAPAN	124.23 A
IWAKI	JAPAN	124.13 B
IWAKI MARU	JAPAN	124.21 A
IWATE MARU	JAPAN	124.21 A
- J -		
JEONBUK 855	KOREA	143.02 V
JOHN P. TULLY	CANADA	106.22 U
- K -		
KAGAMI	JAPAN	124.19 B
KAGAWA MARU	JAPAN	124.27 A
KAIKO MARU	JAPAN	124.05 B
KAIUN MARU	JAPAN	124.21 A
KAIYO	JAPAN	124.13 B
KAIYO MARU	JAPAN	124.21 A
		124.23 A
KANO MARU	JAPAN	124.27 A
KASHIMA MARU	JAPAN	124.27 A
KEIFU MARU	JAPAN	124.01 F
Keil (LH)	GERMANY (Federal Republic)	214.01
KINSEI MARU	JAPAN	124.20 A
		124.20 C
KNORR	U.S.A.	139.01 I
KOFU MARU	JAPAN	124.08 D
KOSHIJI MARU	JAPAN	124.22 A
KOSIKI	JAPAN	124.13 B
KOYO MARU	JAPAN	124.16 A
KUNIGAMI	JAPAN	124.13 B
KUROSHIO	JAPAN	124.23 A
KUROSHIO MARU	JAPAN	124.19 B
KUZURYU	JAPAN	124.13 B
KYUSYU	JAPAN	124.13 B
- L -		
LA DIEPPOISE	FRANCE	113.14 C
LADY HAMMOND	CANADA	106.11 U
LAFAYETTE	FRANCE	113.03 L
- M -		
MAINE	FRANCE	113.14 D

ALPHABETICAL INDEX

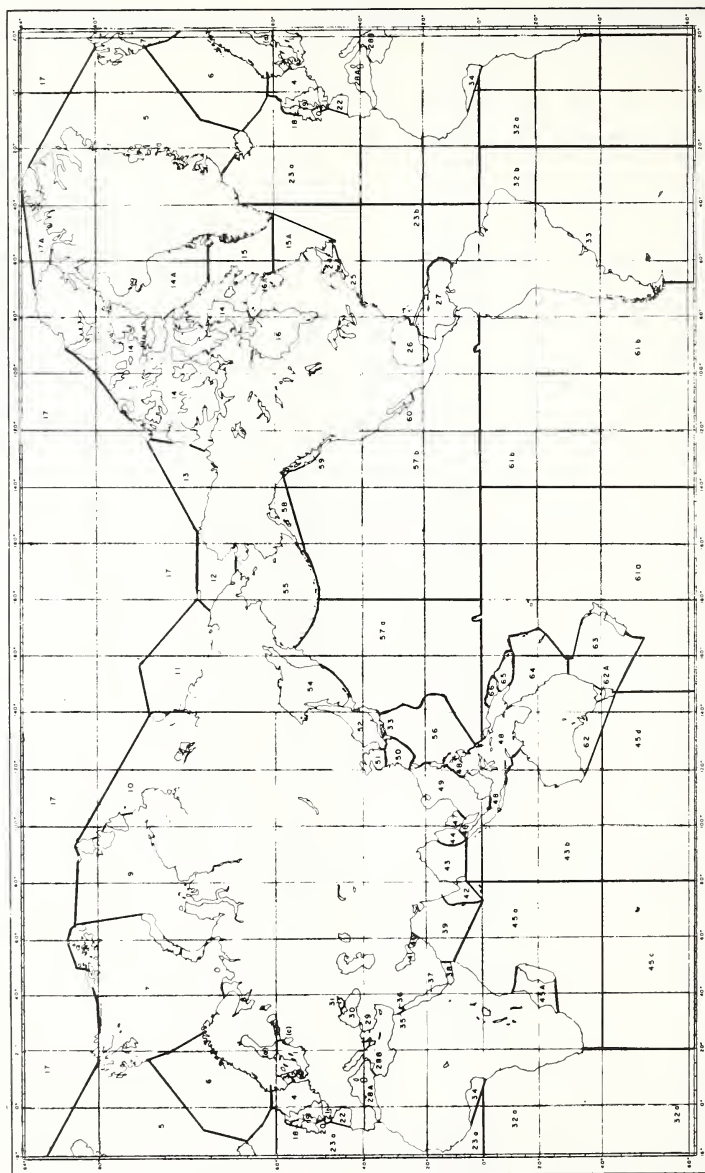
SHIP OR FIXED STATION	COUNTRY	CATALOGUE NUMBER
MARINUS	CANADA	106.10 F
MASYU	JAPAN	124.13 B
MATSUDA MARU NO. 2	JAPAN	124.20 A
MATUSIMA	JAPAN	124.13 B
MAXWELL	CANADA	106.09 N
MEDARIANA	FRANCE	113.14 D
MEDELENA	FRANCE	113.14 D
MEIYO	JAPAN	124.13 B
METEOR	GERMANY (Federal Republic)	114.01 J
MIDORI	JAPAN	124.23 A
MIYAGI MARU	JAPAN	124.27 A
MIYAKO MARU	JAPAN	124.05 B
MIZUHO MARU	JAPAN	124.22 A
MOGAMI MARU	JAPAN	124.22 A
MOTOBU	JAPAN	124.13 B
MUSSON	U.S.S.R.	137.06 K
- N -		
NATSUDO MARU	JAPAN	124.21 A
Neah Bay	U.S.A.	239.02
NEW HORIZON	U.S.A.	139.08 V
NONIA	CANADA	106.22 S
NOTO	JAPAN	124.13 B
- O -		
Ocean Data Buoys	JAPAN	224.01 A
OCEANUS	U.S.A.	139.01 L
OITA MARU	JAPAN	124.27 A
OKI	JAPAN	124.13 B
OMI MARU	JAPAN	124.19 B
OSHOHO MARU	JAPAN	124.02 B
OTORI MARU	JAPAN	124.22 A
OYAMA MARU	JAPAN	124.27 A
OYASHIO MARU	JAPAN	124.20 A
		124.20 B
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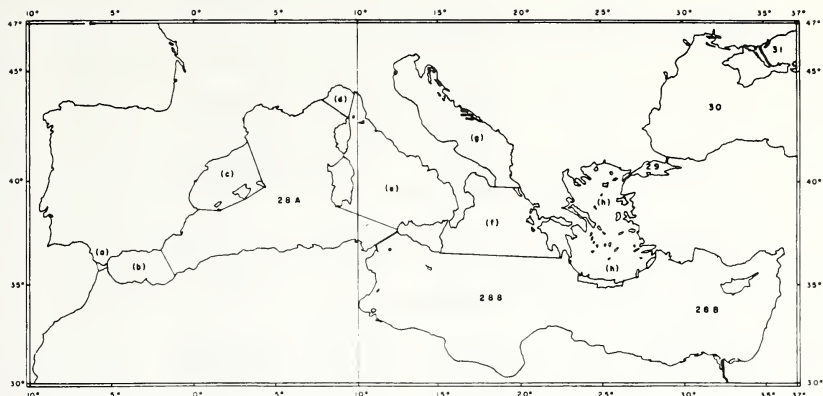
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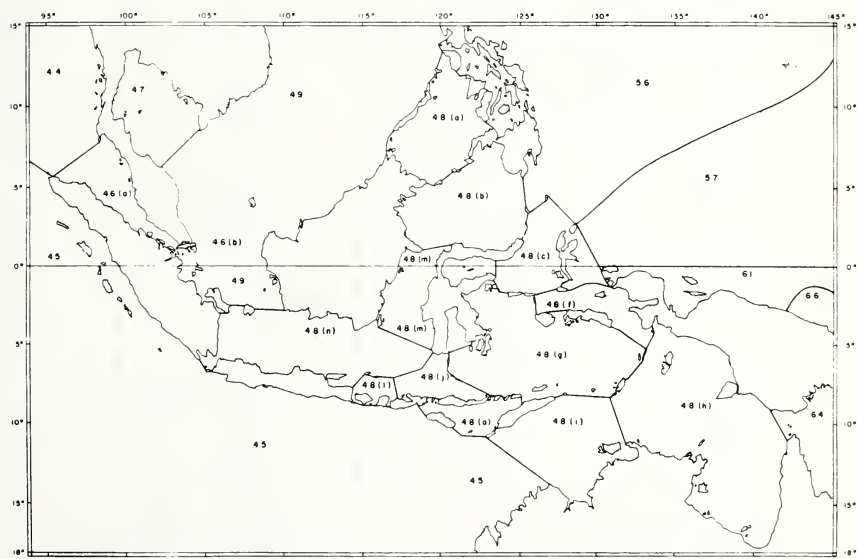
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| 3. BELGIUM | 42. YUGOSLAVIA |
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| 7. CHILE | 46. CONGO (People's Republic) |
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| 16. GHANA | 55. COSTA RICA |
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| 24. JAPAN | 63. ROMANIA |
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| 27. NEW ZEALAND | 66. ALGERIA |
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| 32. POLAND | 71. TUNISIA |
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LIST OF INITIALS OF DATA CENTERS

AODC	Australian Oceanographic Data Centre
BND0	Bureau National des Donnees Oceaniques, France
CEADO	Centro Argentino de Datos Oceanograficos
CECOLDO	Centro Colombiano de Datos Oceanograficos
CEDO	Centro Espanol de Datos Oceanograficos
CENADO	Centro Nacional de Datos Oceanograficos, Mexico
CENDOC	Centro Nacional de Datos Oceanograficos de Chile
CNODC	China National Oceanographic Data Center
CNRDO	Centro Nazionale Raccolta Dati Oceanografici, Italy
DOD	Deutsches Ozeanographisches Datenzentrum
ENODC	Egyptian National Oceanographic Data Center
FAOFDC	Food and Agriculture Organization of the United Nations, Fishery Data Centre
ICES	International Council for the Exploration of the Sea
IHO	International Hydrographic Organization
INODC	Indian National Oceanographic Data Center
JODC	Japan Oceanographic Data Center
KODC	Korean Oceanographic Data Center
MEDS	Marine Environmental Data Service, Canada
MIAS	Marine Information and Advisory Service, United Kingdom
NCOG	Nederlands Centrum voor Oceanografische Gegevens
NOD	Norsk Oseanografisk Datasenter
NODC	National Oceanographic Data Center, U.S.A.
PSMSL	Permanent Service for Mean Sea Level
SADCO	South African Data Centre for Oceanography

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PART II
CATALOGUE

EXPLANATION OF WDC-A, OCEANOGRAPHY, DATA INFORMATION SHEET

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Country/Catalogue Number -- The series number and two digit number of the contributing country, as well as the identifying number for the data information, are given in this column. Details of the catalogue numbering system are given in the section How to Use the Change Notice to the Catalogue of Data. The numbers corresponding to the country and institution portions of the Catalogue Number are found in the index section that lists countries and contributing institutions.

Country/Ship or Fixed Station -- The country name, as well as the names of ships are printed in capital letters; lightvessels are identified by (LV) following the name. All other names not so designated are those of shore stations and other types of fixed platforms, such as lighthouses (LH) or offshore towers; names are reported as they appear with the data.

Start Date/End Date -- The dates during which the data were gathered are given in the order of day/month/year. In some instances, depending on the nature of the project, the dates indicate the beginning and ending of a cruise or expedition, while in others the dates indicate the first and last observations. For shore and fixed stations months and years only are usually given.

Region -- The region(s) of the World Ocean where observations were gathered. The areas listed are defined in "Limits of Oceans and Seas," International Hydrographic Bureau, Special Publication No. 23, third edition, Monaco, 1953, with certain modifications as indicated in the Catalogue Indexes section.

Oceanographic Serial Stations

Number of Stations -- The number of oceanographic serial stations (also referred to as hydrographic, hydrographical, hydrological and hydrochemical stations by various authorities) at which serial measurements of temperature, salinity, and other chemical values are made, normally to depths of five meters or greater. Data to depths less than five meters are usually catalogued as Surface Observations. The single dagger symbol (+) is used to denote data obtained by electronic, in-situ, Salinity/Temperature/Depth (STD) or Conductivity/Temperature/Depth (CTD) sensors.

Physical and Chemical Data -- The types of physical and chemical data, available at serial depths as observed and as computed values, are listed using the following symbols and abbreviations:

T	-	Temperature of the water sample
Cl	-	Chlorinity
S	-	Salinity
Oxy	-	Dissolved oxygen content
CO ₂	-	Carbon dioxide
pH	-	Hydrogen ion concentration
Alk	-	Alkalinity
N	-	Nitrogen compounds
P	-	Phosphorous compounds
Si	-	Silicon compounds
sig-t	-	Density of the water at T & S <u>in-situ</u> and at atmospheric pressure
SVA	-	Anomaly of specific volume
TherAnom	-	Thermosteric anomaly
ΔD	-	Anomaly of dynamic heights
PE	-	Potential energy
PT	-	Potential temperature
Q	-	Q factor for transport computations
Vs	-	Speed of sound

NOTE: Chemical compounds may also be indicated by standard chemical symbols.

Sample Depths -- The depth, or range of depths, to which the predominant number of samples/casts for that particular cruise were observed. They are recorded to the nearest 100 meters, except when the observations are in water less than 100 meters in depth, in which case they are usually recorded to the nearest 10 meters.

Maximum Depth -- The actual depth of the deepest sample/cast for a particular cruise or data set and is not rounded off.

BT's -- The type and number of mechanical bathythermograph (MBT) or expendable bathythermograph (XBT) observations are indicated by:

MB	-	Analog prints of bathythermographs taken by a mechanical BT
MTb	-	Tables or listings of mechanical BT temperature readings at selected depths
XB	-	Analog prints of bathythermographs taken by an expendable BT
XTb	-	Tables or listings of expendable BT temperature readings at selected depths

DTb - Table or listings of digital BT temperature readings at selected depths

Currents -- The types and quantity of observations of surface and subsurface are indicated by:

Surf - Surface
Subs - Subsurface

Biological -- The types of marine biological observations made and the number of stations and/or abundance of data are indicated by any of the following categories:

Phyt - Phytoplankton
Pigm - Pigments
PrPr - Primary productivity
Zoo - Zooplankton
Nek - Nekton
Eggs - Fish eggs and/or larvae
Neus - Neuston
Pleu - Pleuston
Sest - Seston
Bent - Benthos
PeF - Pelagic fishes
DeF - Demersal fishes
Cet - Cetacea
Micr - Microbiological data
Biol - Bioluminescence
Poll - Pollution studies
Surf - Surface visual observations of birds, fishes
mammals, reptiles and discolored water
FObs - Fishery observations
C14 - Carbon
Bore - Borers and foulers

Meteorological -- The types of meteorological observations taken in conjunction with oceanographic data are indicated by:

Wd - Wind direction and speed
W - Weather
Ta - Temperature of the air, dry bulb
Tw - Temperature of the air, wet bulb
Bar - Atmospheric pressure, barometer
Cld - Clouds
Vis - Visibility
Hum - Humidity
DP - Dew point
Pre - Precipitation
SoRa - Solar radiation
Rad - Radiosonde observations

Sea Surface -- The types of sea surface observations and measurements taken are listed. In addition to the abbreviations and symbols listed for Physical and Chemical Data, the following

are also used:

- Col - Color of the water
- Tra - Transparency of the water
- Wa - Visual data on waves, including sea state
- IWa - Instrumented wave data
- Ice - Data on ice in the sea
- LP - Light penetration
- LPW - Long period wave records

Data Center Reference Number -- Data which have been processed by Automatic Data Processing (ADP) machine methods at a national, regional, or responsible oceanographic data center, usually have been assigned some type of identifying reference number by that center. The availability of data in magnetic tape or machine listing format is indicated by the initials of the data center followed by that center's reference number. For example, machine-processed oceanographic station data for Reference Number 310863 of the National Oceanographic Data Center would appear as NODC 310863. As a means of identifying those types of data that have been machine-processed and thus correspond to the Reference Number, the Diamond symbol (◊) is entered in the appropriate columns describing data that are automated under that Reference Number.

Publication number refers to the Catalogue Number from the WDC-A, Oceanography Catalogue of Accessioned Publications Supplement identifying the published report in which the referenced data appear. A blank in this column indicates that the data were not received in published form.

Remarks -- Any additional information included to further describe the data. The term "(CAT. OF DATA)" or "(Change)", indicates that data for this listed cruise represent an addition to data previously received by WDC-A, Oceanography, and already described under this Catalogue Number in the Catalogue of Data (including Change Notice Nos. 1-16) or the referenced Change Notice. An asterisk (*) is placed beside each data entry which represents an addition to data catalogued previously; the total number of observations held for this cruise is shown in parentheses () beneath the data entry. Data entries preceded by a minus sign (-) and enclosed in parentheses, e.g. (-9), indicate a deletion of observations. For more extensive explanation of some cruises, the Remarks Section immediately follows the main Catalogue Section in this Change Notice.

NOTE: Track charts showing locations of oceanographic observations are not printed in the Change Notice. If a track chart is available for a particular cruise, that information will be given in the Remarks Section of this Change Notice. WDC-A will gladly provide copies of such track charts upon request.

WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ CRUISE NUMBER	COUNTRY/ SHIP AND STATION	START DATE	DO DATE	HB NO. REQ.	TYPES OF			OBSERVATIONS			DATA CENTER REFERENCE NUMBER	REMARKS
					OCEANOGRAPHIC NO.	SERIAL NO.	DEPTH	BATHY- THERMO- GRAPH	CURRENTS	BIO- LOGICAL	METEO- LOGICAL	SEA SURFACE
101.01	I-03 ARGENTINA.....	11/01/75	23/02/75	325 615 SO	29 139 0							
106.09	C-15 CANADA.....	01/03/72	04/05/72	167	AD	50-400	430					
106.09	C-19 BAFFIN	11/04/81	06/08/81	15A 23b	61	(T, S, sig-t, SW, AD, Va) 0	100-1400, 3000-5000					
106.09	C-20 BAFFIN	06/08/84	03/10/84	14A 15	35	(T, S, sig-t, SW, AD, Va) 0	50-500	1749				
106.09	D-20 SACKVILLE	15/06/73	25/11/73	24	352	(T, S, sig-t, SW, AD, Va) 0	15-440	441				
106.09	F-16 HUDSON	06/01/80	31/10/80	14A 15A 23b	126	(T, S, sig-t, SW, AD, Va) 0	100-1000	2815				
106.09	F-17 HUDSON	01/08/83	25/10/83	15A 23b	112	(T, S, sig-t, SW, AD, Va) 0	50-600, 4000-4150	4186				
106.09	F-18 HUDSON	25/06/84	02/10/84	15A	62	(T, S, sig-t, SW, AD, Va) 0	100-1000, 2400-3600	3605				
106.09	F-19 HUDSON	21/08/73	20/09/73	5 23a	175	(T, S, sig-t, SW, AD, Va) 0	200-2000	2389				
106.09	F-20 HUDSON	15/10/77	31/10/77	15 15A	125	(T, S, sig-t, SW, AD, Va) 0	100-2800	2819				
106.09	F-21 HUDSON	26/01/78	11/04/78	15A 23b	155	(T, S, sig-t, SW, AD, Va) 0	100-3600	4259				
106.09	I-11 DANSON	06/05/71	18/06/71	23b	17							
106.09	I-12 DANSON	11/10/78	22/11/78	23b 24	626	(T, S, sig-t, SW, AD, Va) 0	30-345	345				
106.09	I-13 DANSON	20/09/79	30/09/79	24	30	(T, S, sig-t, SW, AD, Va) 0	200	209				

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WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ CATALOGUE NUMBER	COUNTRY/ SHIP/REFID STATION	START	END	HB NO. OF DATA	OCEANOGRAPHIC SERIAL STATIONS				OBSERVATIONS				DATA CENTER REFERENCE	REMARKS
					PHYS. & CHEM. DATA	NO. OF DATA	NO. OF DATA	NO. OF DATA	NO. OF DATA	NO. OF DATA	NO. OF DATA	NO. OF DATA		
106.09 1-14	DANSON	26/03/83	27/10/83	23b 24	(T, S, sig-t, SW, AD, VS) 0	170 †	50-500, 4700-4900	4981					NODC 188063, 188064, 188066, 188067	Period: 26/3-16/4/80 and 6/9-27/10/80
106.09 1-15	DANSON	05/03/83	02/12/81	23b 24	(T, S, sig-t, SW, AD, VS) 0	176 †	50-500, 1000,2450	2476					NODC 188069, 188070, 188071, 188073-188076	Period: 5/3-7/5/81 and 13/11-12/12/81
106.09 1-16	DANSON	24/03/83	08/12/82	23b 24	(T, S, sig-t, SW, AD, VS) 0	286 †	10-450, 1000	1028					NODC 188077-188082	Period: 24-26/3/82 and 8/9-8/12/82
106.09 1-17	DANSON	06/04/83	28/10/83	15A 23b 24	(T, S, sig-t, SW, AD, VS) 0	113 †	50-200, 800-1000	1001					NODC 188083-188086	
106.09 1-18	DANSON	08/01/74	12/09/74	23b 24	(T, S, sig-t, SW, AD, VS) 0	200 †	17-1700	4611					NODC 188242, 188243, 188244, 188245, 188310	Period: 8-29/1/74, 12-26/2/74 and 5-12/9/74
106.09 1-19	DANSON	27/01/75	14/12/75	23b 24	(T, S, sig-t, SW, AD, VS) 0	543 †	75-1500	1526					NODC 188246-188251	Period: 27/1-14/5/75, 13-15/8/75 and 21/11-14/12/75
106.09 1-20	DANSON	29/04/76	20/12/76	23b 24	(T, S, sig-t, SW, AD, VS) 0	243 †	10-2500	2568					NODC 188256, 188257, 188258, 188316	
106.09 1-21	DANSON	29/03/77	20/04/77	23b 24	(T, S, sig-t, SW, AD, VS) 0	86 †	100-1000	1001					NODC 188056, 188261	
106.09 1-22	DANSON	07/05/78	29/09/78	23b 24	(T, S, sig-t, SW, AD, VS) 0	373 †	25-350, 4600-5400	5447					NODC 188264-188266 188305	
106.09 1-23	DANSON	25/04/79	23/10/79	23b 24	(T, S, sig-t, SW, AD, VS) 0	430 †	25-300, 3100-3100	3359					NODC 188268-188273	
106.09 N-02	MAXWELL	08/11/77	12/11/77	24	(T, S, sig-t, SW, AD, VS) 0	12 †	50-99	99					NODC 188282	
106.09 NA-05	GENUS ATLANTICA	01/12/79	05/12/79	15A 23b	T 0	24	200-350	350					NODC 181392	
106.09 NA-06	GENUS ATLANTICA	30/08/80	09/12/80	23b 24	T 0	48	120-1200	1240					NODC 181493, 181495, 181497-181498	

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WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY CRUISE NUMBER	COUNTRY SHIP AND STATION	START DATE	BO DATE	HR REG. STAS.	TYPES OF OBSERVATIONS			METO- LOGICAL	SEA SURFACE	DATA CENTER REFERENCE NUMBER	REMARKS
					OCEANOGRAPHIC SERIAL - STATIONS	BATHY- THERMO- GRAPH	BIO- LOGICAL				
106.09 AA-07	GADUS ATLANTICA	05/07/61	14/12/81	15A 23b	NO. OF CHEM. DATA 260 (T, S, sig-t, SVA, AD, VS) 0	DEPTH 70-1000 1000		(Wd, Ts, Tw, Bst) 0	T-6 0	NOOC 181500, 181506, 181512, 181513, 181516, 181519, 181520, 181521, 181525, 181527, 181529	
106.09 AA-08	GADUS ATLANTICA	07/01/62	17/11/62	23b 337	(T, S, sig-t, SVA, AD, VS) 0	75-500 984		(Wd, Ts, Tw, Bst) 0		NOOC 181532, 181533, 181534, 181535, 181537, 181545, 181546, 181546-186101	
106.09 AA-09	GADUS ATLANTICA	02/02/63	09/12/63	15A 23b	(T, S, sig-t, SVA, AD, VS) 0	80-400 671				NOOC 186107- 186116, 186127	
106.09 AA-10	GADUS ATLANTICA	01/02/64	06/12/64	23b 53	(T, S, sig-t, SVA, AD, VS) 0	80-600 906				NOOC 186133- 186144, 186162	
106.09 AA-11	GADUS ATLANTICA	31/01/65	24/11/65	23b 40	(T, S, sig-t, SVA, AD, VS) 0	80-600 906				NOOC 186164- 186169, 186172-186181	
106.09 AA-12	GADUS ATLANTICA	08/02/66	27/11/66	15A 23b	(T, S, sig-t, SVA, AD, VS) 0	150-400 624				NOOC 186204-186214	
106.09 DD-01	PAUDORA II	16/04/61	05/07/61	23b 182 + 24 25	(T, S, sig-t, SVA, AD, VS) 0	20-600 1428				NOOC 186071, 186072, 186284	
106.10 F-01	MAXINUS	08/01/60	06/12/60	23b 22	(T, S, sig-t, AD, VS) 0	165-175 175		(Wd, W, CLD, Ts) 0	Na 0	NOOC 181241	
106.10 F-02	MAXINUS	09/01/61	29/11/61	23b 24	(T, S, sig-t, AD, VS) 0	165-175 175		(Wd, W, CLD, Ts) 0	Na 0	NOOC 181242	
106.10 F-03	MAXINUS	29/01/61	21/11/61	15A 23b 24	T 0 (T, S, sig-t, AD, VS) 0	10-100 100		(Wd, Ts, Tw, Bst) 0	T-6 0 0	NOOC 181502, 181504, 181507, 181513, 181526, 181528, 181530	
106.10 F-04	MAXINUS	03/02/62	10/05/62	15A 23b	T 0	10-100 330		(Wd, Ts, Tw, Bst) 0	T-3 0	NOOC 181534, 181535, 181537, 186106	

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WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ CATALOGUE NUMBER	COUNTRY/ SHIP OR FIXED STATION	START DATE	END DATE	IB NO	OCEANOGRAPHIC REG. STAS.	TYPES			OBSERVATIONS			MTEORO. LOGICAL	SEA SURFACE	DATA CENTER REF. NO.	REMARKS
						CHEM. DATA	SERIAL STATIONS	DEPTH	BATHY- THERMO- GRAPH	CURRENTS	BIO- LOGICAL				
106.10 F-05	MARLINUS	19/01/82	19/08/83	15A 23b 24	61	T 0	10-300	431				T-13 0 11	NODC 188117, 188118, 188131	Period: 19/1-17/2/83 and 25/5-19/8/83	
106.10 F-06	MARLINUS	10/08/84	19/08/84	15A 24	14	T 0	250-300	300				T-3 0 11	NODC 188148 188186	Period: 7-9/8/85 and 6-15/10/85	
106.10 F-07	MARLINUS	07/08/85	15/10/85	15A 24	3	T 0	150-300	338				(Wd, Ta, T _W , Bar) 0	NODC 181501, 181503, 181507, SWA, AD, V91-100 0 11	Period: 15/1-18/5/81 and 6/9-5/12/81	
106.10 G-01	SWANCK	15/01/81	05/12/81	15A 23b 24	184	T 0	20-300	313					NODC 181522, 181524, 181531	Period: 2/4-26/5/82 and 30/8-17/11/82	
106.10 G-02	SWANCK	02/04/82	17/11/82	15A 23b	58	T 0	50-300	307			(Wd, Ta, T _W , Bar) 0	T-5 0 11	NODC 181542, 188102-188105	Period: 5-11/5/83 and 6/9-8/12/83	
106.10 G-03	SWANCK	05/05/83	08/12/83	23b	20	(T, S, sig-t, SWA, AD, Va) 0	50-190	190				T-9 0 11	NODC 188128-188130	Period: 12/6-9/7/84 and 4-11/10/84	
106.10 G-04	SWANCK	12/06/84	11/10/84	23b	17	T 0	150-250	259				T-5 0 11	NODC 188145-188147	Period: 12/6-15/8/85 and 7/11/85	
106.10 G-05	SWANCK	12/06/85	07/11/85	23b	11	T 0	160-180	184				T-8 0 11	NODC 188182-188184	Period: 12/6-15/8/85 and 7/11/85	
106.10 G-06	SWANCK	10/02/86	05/11/86	23b	7	(T, S, sig-t, SWA, AD, Va) 0	50	260			(T, S, sig-t, V91-37 0 11	NODC 188215-188219			
106.10 H-01	WILFRED TEMPLEMAN	08/07/83	25/11/83	15A 23b	12	(T, S, sig-t, SWA, AD, Va) 0	150-175	176				T-4 0 11	NODC 188119-188126		
106.10 H-02	WILFRED TEMPLEMAN	23/01/84	15/12/84	23b	17	(T, S, sig-t, SWA, AD, Va) 0	70-175	176				(T, S, sig-t, SWA, AD, V91-56 0 11	NODC 188149- 188157, 188163		
106.10 H-03	WILFRED TEMPLEMAN	10/01/85	21/11/85	23b	33	(T, S, sig-t, SWA, AD, Va) 0	80-175	192				(T, S, sig-t, SWA, AD, V91-32 0 11	NODC 188167-188171 188187-188199		
106.10 H-04	WILFRED TEMPLEMAN	12/01/86	08/09/86	23b	15	(T, S, sig-t, SWA, AD, Va) 0	160-170	176				(T, S, sig-t, SWA, AD, V91-106 0 11	NODC 188203, 188220-188228		
106.10 I-01	CINDY ELIZABETH	05/08/84	22/08/84	23b	7	T 0	50	50					NODC 188159		
106.10 I-02	CINDY ELIZABETH	01/08/85	18/08/85	23b	8	T 0	50	57					NODC 188202		

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WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ CATALOGUE NUMBER	COUNTRY/ SHIP NAME STATION	START DATE	BO DATE	HOURS REQ	TYPES OF OBSERVATIONS				METOPO LOGICAL	SEA SURFACE	DATA CENTER NUMBER	REMARKS
					OCEANOGRAPHIC STAS.	CHEM DATA	SERIAL STATIONS DEPTHS	BATHY- GRAPH	CURRENTS	BIO- LOGICAL		
106.11 C-27	A. T. CAMERON	30/09/80	11/12/80	15A 23b	52	T	0	50-200	358		NODC 181494, 181496, 181499	
106.11 U-08	LADY HANMOND	03/09/80	15/12/80	23b 24 25	301	(T, S, sig-t, AD, V _s)	30-260	300		(T, S, sig-t, SWA, AD, V _s -238 0	NODC 181281-181285	
106.11 U-09	LADY HANMOND	06/01/81	22/10/81	22b 24 25	464	(T, S, sig-t, AD, V _s)	30-300	317		(T, S, sig-t, SWA, AD, V _s -258 0	NODC 181289- 181292, 181294, 181296, 181297, 181299-181301	Period: 6/1-17/81 and 17/7-22/10/81
106.11 U-10	LADY HANMOND	30/03/82	07/06/82	23b	123	(T, S, sig-t, AD, V _s)	50-280	280		(T, S, sig-t, SWA, AD, V _s -270	NODC 181483, 181547	
106.11 U-11	LADY HANMOND	18/06/83	01/07/83	23b						(T, S, sig-t, V _s -119 0 11	NODC 188132	
106.11 U-12	LADY HANMOND	26/07/84	22/10/84	15A 23b	148 1	(T, S, sig-t, AD, V _s)	80-700	768		(T, S, sig-t, V _s -82 0	NODC 188016, 188158, 188229	90 CTD/STD stations
106.11 V-04	ALFRED NEEDLER	25/05/83	27/10/83	23b 25	412	(T, S, sig-t, AD, V _s)	75-600	923		(T, S, sig-t, SWA, AD, V _s -164 0	NODC 181484- 181490, 181546	
106.11 V-05	ALFRED NEEDLER	09/10/84	01/11/84	23b 25	118	(T, S, sig-t, AD, V _s)	30-270	332		(T, S, sig-t, SWA, AD, V _s -50 0	NODC 188013, 188014	
106.11 V-06	ALFRED NEEDLER	10/01/85	14/10/85	15A 23b 24	273 1	(T, S, sig-t, AD, V _s)	50-1000	1016		(Wd, T _s , sig-t, SWA, AD, V _s -179 0 11	NODC 188017, 188018, 188019-188089 188201-188230	72 CTD/STD stations
106.11 V-07	ALFRED NEEDLER	04/03/86	25/03/86	23b	158	(T, S, sig-t, AD, V _s)	30-250	255		(T, S)-6 0 11	NODC 188091, 188092	
106.22 A-05	PARIZEAU, ENDEAVOUR	26/05/82	23/09/82	57b 59	239 1	(T, S, sig-t, AD, V _s)	30-400	400			Publication 06.11-123	Cruise TC82-01 and TC92-01 Period: 26/5-1/6/82 and 18/23/9/82
106.22 Q-02	PARIZEAU	12/05/84	24/05/84	57b	27	T, S, P ₀₄ , NO ₃ , SiO ₄	100-200	254	Phy-42 Zoo-87 Pigm-37 PEFF-45		Publication 06.11-140	Cruise 84-02, SUPER

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WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ Cruise Number	COUNTRY/ SHIP AND STATION	START DATE	END DATE	NO. REG.	TYPES OF OBSERVATIONS				DATA CENTER Reference Number	REMARKS
					OCEANOGRAPHIC SERIAL STATIONS	BATHY- GRAPH	CURRENTS	BIO- LOGICAL	SEA SURFACE	
106.22 Q-03	PANIZIAN	25/10/87	07/11/87	57b	4.0 † T, S, SVA, AD, Vs, PE	80-500	1207		06.17-142	
106.22 S-01	KNIA	30/07/76	06/08/76	15A 23b	48 (T, S, SVA, AD, Vs)	50-1000	1000		NODC 181261, 181262	Cruise NOGAP B.6
106.22 T-01	ARCTIC IVIK	10/09/86	14/09/86	13	85 † T, S, SVA, AD, Vs, PE	10-250	400	Pigm-42 Micr-42	Publication 06.17-134 06.17-135 SLO3	
106.22 U-01	JOHN P. TULLY	30/03/87	04/06/87	13	64 † T, S, SVA, AD, Vs, PE	5-130	147		Publication 06.17-137 SLO3	Cruise NOGAP B.6
106.22 U-02	JOHN P. TULLY	01/08/87	08/09/87	13	29 T, S, SVA, AD, Vs, PE, NO3, SLO4	8-200	3000	Pigm-61	Publication 06.17-139 SLO3	Cruise NOGAP B.6
106.22 V-01	PANDORA II	11/08/77	06/09/77	13	18 (T, S, SVA, AD, Vs, PE, NO3, SLO4)	100-500	500		NODC 181234	
113.....	FRANCE.....									
113.03 J-02	ANDRE NIZERY	07/08/82	30/08/82	23a 34 (45)	-39 * 12a				Delete BND0 32607111 *	Period: Delete 181234 (Change 35)
113.03 J-03										Delete from Catalogue 181234 (Change 35)
113.03 L-01	EUREL, LAFANETTE, ZELANDE	21/07/81	02/12/81	23a 32b		XTB- 1,398			NODC (BT) 41314 thru 68519	Cruise SEQUAL
113.14 C-01	LA DIEPPOISE	07/08/71	25/09/71	39		XTB-70			NODC (BT) 41314	
113.14 D-01	MEDEJENA, VALNE, MEDIANNA, TIANE	08/06/76	15/12/88	57b 57a		XTB-590			NODC (BT) 54074, 54281, 54301, 54315, 54388, 54515, 58552-58556, 67170, 67222-67223	Cruise TRANSPAC
114.....	GERMANY (FEDERAL REPUBLIC).....									
114.01 C-37	GAUSS	05/08/75	14/08/75	4	PO4, Ptotal, pH, SLO4, pH			Pigm-50 0 *		Cruise 250 (Change 27)

* DATA FOR THIS CRUISE REPRESENT AN ADDITION TO DATA PREVIOUSLY RECEIVED BY WDC-A. OCEANOGRAPHY.
† DENOTES DATA OBTAINED BY ELECTRONIC IN-SITU CONDUCTIVITY/SALINITY/TEMPERATURE DEPTH (CTD/STD) SENSORS.
0 INDICATES MACHINE PROCESSED DATA THAT CORRESPONDS TO THE DATA CENTER REFERENCE NUMBER.
11 FOR ADDITIONAL DESCRIPTIVE REMARKS PLEASE SEE THE REMARKS SECTION.

WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ Cruise NUMBER	COUNTRY/ SHOBBENED STATION	START DATE	END DATE	TYPES OF OBSERVATIONS				METEORO- LOGICAL	SEA SURFACE	DATE/CENTER REFERENCE NUMBER	REMARKS			
				NO. OF STAS.	PHYS. & CHEM. DATA	SERIAL STATIONS SAMPLE DEPTHS	BATHY- THERMO- GRAPH							
114.01 C-46	GAUSS	08/05/78	10/05/78	4	(T, S, Sal, Oxy, sig- ₂ , V ₂ , 0)	15-35	35	(Wd, Ta, 0)	Na 0	DOD 78126	Cruise 298			
114.01 J-27	METEOR	06/11/82	24/11/82	1	(T, S, Oxy, sig- ₂ , V ₂ , 0)	20-230	419	(Wd, Ta, 0)	Na 0	DOD 82093	Cruise 63, BALMON			
114.01 M-41	Ship not identified (Chartered Ship)	23/12/80	19/01/81	32b 50	(T, S, Oxy, sig- ₂ , V ₂ , 0)	XTB-105 0	XTB-459 0	(Wd, Ta, C, 0)	Na 0	DOD 84005	Cruise 2			
114.01 M-42	Ship not identified (Ship of Opportunity)	04/05/84	23/12/84	23a 32b 32b	(T, S, Oxy, sig- ₂ , V ₂ , 0)	XTB-252 0	XTB-459 0	(Wd, Ta, C, 0)	Na 0	DOD 84037 84038 84039 84040 84041 84042 84043 84044 84045 84046 84047 84048 84049 84050 84051 84052 84053 84054 84055 84056 84057 84058 84059 84060 84061 84062 84063 84064 84065 84066 84067 84068 84069 84070 84071 84072 84073 84074 84075 84076 84077 84078 84079 84080 84081 84082 84083 84084 84085 84086 84087 84088 84089 84090 84091 84092 84093 84094 84095 84096 84097 84098 84099 84100 84101 84102 84103 84104 84105 84106 84107 84108 84109 84110 84111 84112 84113 84114 84115 84116 84117 84118 84119 84120 84121 84122 84123 84124 84125 84126 84127 84128 84129 84130 84131 84132 84133 84134 84135 84136 84137 84138 84139 84140 84141 84142 84143 84144 84145 84146 84147 84148 84149 84150 84151 84152 84153 84154 84155 84156 84157 84158 84159 84160 84161 84162 84163 84164 84165 84166 84167 84168 84169 84170 84171 84172 84173 84174 84175 84176 84177 84178 84179 84180 84181 84182 84183 84184 84185 84186 84187 84188 84189 84190 84191 84192 84193 84194 84195 84196 84197 84198 84199 84200 84201 84202 84203 84204 84205 84206 84207 84208 84209 84210 84211 84212 84213 84214 84215 84216 84217 84218 84219 84220 84221 84222 84223 84224 84225 84226 84227 84228 84229 84230 84231 84232 84233 84234 84235 84236 84237 84238 84239 84240 84241 84242 84243 84244 84245 84246 84247 84248 84249 84250 84251 84252 84253 84254 84255 84256 84257 84258 84259 84260 84261 84262 84263 84264 84265 84266 84267 84268 84269 84270 84271 84272 84273 84274 84275 84276 84277 84278 84279 84280 84281 84282 84283 84284 84285 84286 84287 84288 84289 84290 84291 84292 84293 84294 84295 84296 84297 84298 84299 84300 84301 84302 84303 84304 84305 84306 84307 84308 84309 84310 84311 84312 84313 84314 84315 84316 84317 84318 84319 84320 84321 84322 84323 84324 84325 84326 84327 84328 84329 84330 84331 84332 84333 84334 84335 84336 84337 84338 84339 84340 84341 84342 84343 84344 84345 84346 84347 84348 84349 84350 84351 84352 84353 84354 84355 84356 84357 84358 84359 84360 84361 84362 84363 84364 84365 84366 84367 84368 84369 84370 84371 84372 84373 84374 84375 84376 84377 84378 84379 84380 84381 84382 84383 84384 84385 84386 84387 84388 84389 84390 84391 84392 84393 84394 84395 84396 84397 84398 84399 84400 84401 84402 84403 84404 84405 84406 84407 84408 84409 84410 84411 84412 84413 84414 84415 84416 84417 84418 84419 84420 84421 84422 84423 84424 84425 84426 84427 84428 84429 84430 84431 84432 84433 84434 84435 84436 84437 84438 84439 84440 84441 84442 84443 84444 84445 84446 84447 84448 84449 84450 84451 84452 84453 84454 84455 84456 84457 84458 84459 84460 84461 84462 84463 84464 84465 84466 84467 84468 84469 84470 84471 84472 84473 84474 84475 84476 84477 84478 84479 84480 84481 84482 84483 84484 84485 84486 84487 84488 84489 84490 84491 84492 84493 84494 84495 84496 84497 84498 84499 84500 84501 84502 84503 84504 84505 84506 84507 84508 84509 84510 84511 84512 84513 84514 84515 84516 84517 84518 84519 84520 84521 84522 84523 84524 84525 84526 84527 84528 84529 84530 84531 84532 84533 84534 84535 84536 84537 84538 84539 84540 84541 84542 84543 84544 84545 84546 84547 84548 84549 84550 84551 84552 84553 84554 84555 84556 84557 84558 84559 84560 84561 84562 84563 84564 84565 84566 84567 84568 84569 84570 84571 84572 84573 84574 84575 84576 84577 84578 84579 84580 84581 84582 84583 84584 84585 84586 84587 84588 84589 84590 84591 84592 84593 84594 84595 84596 84597 84598 84599 84600 84601 84602 84603 84604 84605 84606 84607 84608 84609 84610 84611 84612 84613 84614 84615 84616 84617 84618 84619 84620 84621 84622 84623 84624 84625 84626 84627 84628 84629 84630 84631 84632 84633 84634 84635 84636 84637 84638 84639 84640 84641 84642 84643 84644 84645 84646 84647 84648 84649 84650 84651 84652 84653 84654 84655 84656 84657 84658 84659 84660 84661 84662 84663 84664 84665 84666 84667 84668 84669 84670 84671 84672 84673 84674 84675 84676 84677 84678 84679 84680 84681 84682 84683 84684 84685 84686 84687 84688 84689 84690 84691 84692 84693 84694 84695 84696 84697 84698 84699 84700 84701 84702 84703 84704 84705 84706 84707 84708 84709 84710 84711 84712 84713 84714 84715 84716 84717 84718 84719 84720 84721 84722 84723 84724 84725 84726 84727 84728 84729 84730 84731 84732 84733 84734 84735 84736 84737 84738 84739 84740 84741 84742 84743 84744 84745 84746 84747 84748 84749 84750 84751 84752 84753 84754 84755 84756 84757 84758 84759 84760 84761 84762 84763 84764 84765 84766 84767 84768 84769 84770 84771 84772 84773 84774 84775 84776 84777 84778 84779 84780 84781 84782 84783 84784 84785 84786 84787 84788 84789 84790 84791 84792 84793 84794 84795 84796 84797 84798 84799 84800 84801 84802 84803 84804 84805 84806 84807 84808 84809 84810 84811 84812 84813 84814 84815 84816 84817 84818 84819 84820 84821 84822 84823 84824 84825 84826 84827 84828 84829 84830 84831 84832 84833 84834 84835 84836 84837 84838 84839 84840 84841 84842 84843 84844 84845 84846 84847 84848 84849 84850 84851 84852 84853 84854 84855 84856 84857 84858 84859 84860 84861 84862 84863 84864 84865 84866 84867 84868 84869 84870 84871 84872 84873 84874 84875 84876 84877 84878 84879 84880 84881 84882 84883 84884 84885 84886 84887 84888 84889 84890 84891 84892 84893 84894 84895 84896 84897 84898 84899 84900 84901 84902 84903 84904 84905 84906 84907 84908 84909 84910 84911 84912 84913 84914 84915 84916 84917 84918 84919 84920 84921 84922 84923 84924 84925 84926 84927 84928 84929 84930 84931 84932 84933 84934 84935 84936 84937 84938 84939 84940 84941 84942 84943 84944 84945 84946 84947 84948 84949 84950 84951 84952 84953 84954 84955 84956 84957 84958 84959 84960 84961 84962 84963 84964 84965 84966 84967 84968 84969 84970 84971 84972 84973 84974 84975 84976 84977 84978 84979 84980 84981 84982 84983 84984 84985 84986 84987 84988 84989 84990 84991 84992 84993 84994 84995 84996 84997 84998 84999 85000	(Wd, Ta, 0)	Na 0	DOD 80031 83110	Cruises 19, 32, 34, and 35, IGOSSE, and BALMON
114.01 M-46	Ship not identified (Ship of Opportunity)	19/01/86	19/10/86	1 6 23a 32b 32b	(T, S, Oxy, sig- ₂ , V ₂ , 0)	XTB-237 0	XTB-459 0	(Wd, Ta, 0)	Na 0	DOD 86113 86116 86138 86154 86155 86156 86157 86158 86159 86160 86161 86162 86163 86164 86165 86166 86167 86168 86169 86170 86171 86172 86173 86174 86175 86176 86177 86178 86179 86180 86181 86182 86183 86184 86185 86186 86187 86188 86189 86190 86191 86192 86193 86194 86195 86196 86197 86198 86199 86200 86201 86202 86203 86204 86205 86206 86207 86208 86209 86210 86211 86212 86213 86214 86215 86216 86217 86218 86219 86220 86221 86222 86223 86224 86225 86226 86227 86228 86229 86230 86231 86232 86233 86234 86235 86236 86237 86238 86239 86240 86241 86242 86243 86244 86245 86246 86247 86248 86249 86250 86251 86252 86253 86254 86255 86256 86257 86258 86259 86260 86261 86262 86263 86264 86265 86266 86267 86268 86269 86270 86271 86272 86273 86274 86275 86276 86277 86278 86279 86280 86281 86282 86283 86284 86285 86286 86287 86288 86289 86290 86291 86292 86293 86294 86295 86296 86297 86298 86299 86300 86301 86302 86303 86304 86305 86306 86307 86308 86309 86310 86311 86312 86313 86314 86315 86316 86317 86318 86319 86320 86321 86322 86323 86324 86325 86326 86327 86328 86329 86330 86331 86332 86333 86334 86335 86336 86337 86338 86339 86340 86341 86342 86343 86344 86345 86346 86347 86348 86349 86350 86351 86352 86353 86354 86355 86356 86357 86358 86359 86360 86361 86362 86363 86364 86365 86366 86367 86368 86369 86370 86371 86372 86373 86374 86375 86376 86377 86378 86379 86380 86381 86382 86383 86384 86385 86386 86387 86388 86389 86390 86391 86392 86393 86394 86395 86396 86397 86398 86399 86400 86401 86402 86403 86404 86405 86406 86407 86408 86409 86410 86411 86412 86413 86414 86415 86416 86417 86418 86419 86420 86421 86422 86423 86424 86425 86426 86427 86428 86429 86430 86431 86432 86433 86434 86435 86436 86437 86438 86439 86440 86441 86442 86443 86444 86445 86446 86447 86448 86449 86450 86451 86452 86453 86454 86455 86456 86457 86458 86459 86460 86461 86462 86463 86464 86465 86466 86467 86468 86469 86470 86471 86472 86473 86474 86475 86476 86477 86478 86479 86480 86481 86482 86483 86484 86485 86486 86487 86488 86489 86490 86491 86492 86493 86494 86495 86496 86497 86498 86499 86500	(Wd, Ta, 0)	Na 0	DOD 86113 86116 86138 86154 86155 86156 86157 86158 86159 86160 86161 86162 86163 86164 86165 86166 86167 86168 86169 86170 86171 86172 86173 86174 86175 86176 86177 86178 86179 86180 86181 86182 86183 86184 86185 86186 86187 86188 86189 86190 86191 86192 86193 86194 86195 86196 86197 86198 86199 86200 86201 86202 86203 86204 86205 86206 86207 86208 86209 86210 86211 86212 86213 86214 86215 86216 86217 86218 86219 86220 86221 86222 86223 86224 86225 86226 86227 86228 86229 86230 86231 86232 86233 86234 86235 86236 86237 86238 86239 86240 86241 86242 86243 86244 86245 86246 86247 86248 86249 86250 86251 86252 86253 86254 86255 86256 86257 86258 86259 86260 86261 86262 86263 86264 86265 86266 86267 86268 86269 86270 86271 86272 86273 86274 86275 86276 86277 86278 86279 86280 86281 86282 86283 86284 86285 86286 86287 86288 86289 86290 86291 86292 86293 86294 86295 86296 86297 86298 86299 86300 86301 86302 86303 86304 86305 86306 86307 86308 86309 86310 86311 86312 86313 86314 86315 86316 86317 86318 86319 86320 86321 86322 86323 86324 86325 86326 86327 86328 86329 86330 86331 86332 86333 86334 86335 86336 86337 86338 86339 86340 86341 86342 86343 86344 86345 86346 86347 86348 86349 86350 86351 86352 86353 86354 86355 86356 86357 86358 86359 86360 86361 86362 86363 86364 86365 86366 86367 86368 86369 86370 86371 86372 86373 86374 86375 86376 86377 86378 86379 86380 86381 86382 86383 86384 86385 86386 86387 86388 86389 86390 86391 86392 86393 86394 86395 86396 86397 86398 86399 86400 86401 86402 86403 86404 86405 86406 86407 86408 86409 86410 86411 86412	

WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY CODE NUMBER	COUNTRY SUPPORTING STATION	START DATE	R/D DATE	TYPES OF OBSERVATIONS				OBSERVATIONS				OYTA CENTER REFERENCE NUMBER	REMARKS
				REG.	NO OF STAS.	CHEM. DATA	PHYS. & SAMPLE	SERIAL STATIONS	BATHY- THERMO- GRAPH	BIO- LOGICAL	METEO- LOGICAL	SEA SURFACE	
114.07 A-32	ANTON DOHRN	05/02/78	08/03/76	22	47	(T, S, Oxy)	(T, S, Oxy)	35-170	3x5	XTB-47	(Wd, M, Ta, Cld)	Wd 0	Cruise 1988
114.07 A-33	ANTON DOHRN	11/03/77	20/03/77	23b							(Wd, Ta)	DOD 77050	Cruise 198, ICNAF Herring Survey
114.07 A-34	ANTON DOHRN	14/06/86	13/07/86	4							(Wd, M, Ta, Tm, Cld)	OOD 86119	Cruise 268
114.11 A-12	ANTON DOHRN	08/12/85	18/12/85	1	52	(T, S, Oxy, pH)	(T, S, Oxy, pH)	18-95	95		Wd 0	OOD 86021	Cruise 263
114.11 A-13	ANTON DOHRN	03/01/86	17/01/86	4	63	(T, S, Oxy, pH)	(T, S, Oxy, pH)	20-68	81		(T, S, pH-1)	OOD 86022	Cruise 264/1
114.11 B-15	SOLEA	10/05/78	14/05/78	4	9	(T, S)	(T, S)	11-25	25			OOD 76113	Cruise 30
114.11 B-16	SOLEA	01/09/78	05/09/78	1	5	(T, Oxy)	(T, Oxy)	78-128	128			OOD 82024	Cruise 67, UFN
114.11 B-17	SOLEA	12/06/83	01/09/83	4	5	(T, S)	(T, S)	15-37	37		Wd 0	OOD 84073, 84064	Cruises 156, 159
114.11 B-18	SOLEA	07/06/85	09/12/85	1	117	(T, S, Oxy, pH)	(T, S, Oxy, pH)	10-40	46		(Wd, Ta)	OOD 85122, 85143, 85145, 85147, 85148, 85149, 85150, 85151, 85152, 85153, 85154, 85155, 85156, 85157, 85158, 85159, 85160, 85161, 85162, 85163, 85164, 85165, 85166, 85167, 85168, 85169, 85170, 85171, 85172, 85173, 85174, 85175, 85176, 85177, 85178, 85179, 85180, 85181, 85182, 85183, 85184, 85185, 85186, 85187, 85188, 85189, 85190, 85191, 85192, 85193, 85194, 85195, 85196, 85197, 85198, 85199, 85200, 85201, 85202, 85203, 85204, 85205, 85206, 85207, 85208, 85209, 85210, 85211, 85212, 85213, 85214, 85215, 85216, 85217, 85218, 85219, 85220, 85221, 85222, 85223, 85224, 85225, 85226, 85227, 85228, 85229, 85230, 85231, 85232, 85233, 85234, 85235, 85236, 85237, 85238, 85239, 85240, 85241, 85242, 85243, 85244, 85245, 85246, 85247, 85248, 85249, 85250, 85251, 85252, 85253, 85254, 85255, 85256, 85257, 85258, 85259, 85260, 85261, 85262, 85263, 85264, 85265, 85266, 85267, 85268, 85269, 85270, 85271, 85272, 85273, 85274, 85275, 85276, 85277, 85278, 85279, 85280, 85281, 85282, 85283, 85284, 85285, 85286, 85287, 85288, 85289, 85290, 85291, 85292, 85293, 85294, 85295, 85296, 85297, 85298, 85299, 85300, 85301, 85302, 85303, 85304, 85305, 85306, 85307, 85308, 85309, 85310, 85311, 85312, 85313, 85314, 85315, 85316, 85317, 85318, 85319, 85320, 85321, 85322, 85323, 85324, 85325, 85326, 85327, 85328, 85329, 85330, 85331, 85332, 85333, 85334, 85335, 85336, 85337, 85338, 85339, 85340, 85341, 85342, 85343, 85344, 85345, 85346, 85347, 85348, 85349, 85350, 85351, 85352, 85353, 85354, 85355, 85356, 85357, 85358, 85359, 85360, 85361, 85362, 85363, 85364, 85365, 85366, 85367, 85368, 85369, 85370, 85371, 85372, 85373, 85374, 85375, 85376, 85377, 85378, 85379, 85380, 85381, 85382, 85383, 85384, 85385, 85386, 85387, 85388, 85389, 85390, 85391, 85392, 85393, 85394, 85395, 85396, 85397, 85398, 85399, 85400, 85401, 85402, 85403, 85404, 85405, 85406, 85407, 85408, 85409, 85410, 85411, 85412, 85413, 85414, 85415, 85416, 85417, 85418, 85419, 85420, 85421, 85422, 85423, 85424, 85425, 85426, 85427, 85428, 85429, 85430, 85431, 85432, 85433, 85434, 85435, 85436, 85437, 85438, 85439, 85440, 85441, 85442, 85443, 85444, 85445, 85446, 85447, 85448, 85449, 85450, 85451, 85452, 85453, 85454, 85455, 85456, 85457, 85458, 85459, 85460, 85461, 85462, 85463, 85464, 85465, 85466, 85467, 85468, 85469, 85470, 85471, 85472, 85473, 85474, 85475, 85476, 85477, 85478, 85479, 85480, 85481, 85482, 85483, 85484, 85485, 85486, 85487, 85488, 85489, 85490, 85491, 85492, 85493, 85494, 85495, 85496, 85497, 85498, 85499, 85500, 85501, 85502, 85503, 85504, 85505, 85506, 85507, 85508, 85509, 85510, 85511, 85512, 85513, 85514, 85515, 85516, 85517, 85518, 85519, 85520, 85521, 85522, 85523, 85524, 85525, 85526, 85527, 85528, 85529, 85530, 85531, 85532, 85533, 85534, 85535, 85536, 85537, 85538, 85539, 85540, 85541, 85542, 85543, 85544, 85545, 85546, 85547, 85548, 85549, 85550, 85551, 85552, 85553, 85554, 85555, 85556, 85557, 85558, 85559, 85560, 85561, 85562, 85563, 85564, 85565, 85566, 85567, 85568, 85569, 85570, 85571, 85572, 85573, 85574, 85575, 85576, 85577, 85578, 85579, 85580, 85581, 85582, 85583, 85584, 85585, 85586, 85587, 85588, 85589, 85590, 85591, 85592, 85593, 85594, 85595, 85596, 85597, 85598, 85599, 85600, 85601, 85602, 85603, 85604, 85605, 85606, 85607, 85608, 85609, 85610, 85611, 85612, 85613, 85614, 85615, 85616, 85617, 85618, 85619, 85620, 85621, 85622, 85623, 85624, 85625, 85626, 85627, 85628, 85629, 85630, 85631, 85632, 85633, 85634, 85635, 85636, 85637, 85638, 85639, 85640, 85641, 85642, 85643, 85644, 85645, 85646, 85647, 85648, 85649, 85650, 85651, 85652, 85653, 85654, 85655, 85656, 85657, 85658, 85659, 85660, 85661, 85662, 85663, 85664, 85665, 85666, 85667, 85668, 85669, 85670, 85671, 85672, 85673, 85674, 85675, 85676, 85677, 85678, 85679, 85680, 85681, 85682, 85683, 85684, 85685, 85686, 85687, 85688, 85689, 85690, 85691, 85692, 85693, 85694, 85695, 85696, 85697, 85698, 85699, 85700, 85701, 85702, 85703, 85704, 85705, 85706, 85707, 85708, 85709, 85710, 85711, 85712, 85713, 85714, 85715, 85716, 85717, 85718, 85719, 85720, 85721, 85722, 85723, 85724, 85725, 85726, 85727, 85728, 85729, 85730, 85731, 85732, 85733, 85734, 85735, 85736, 85737, 85738, 85739, 85740, 85741, 85742, 85743, 85744, 85745, 85746, 85747, 85748, 85749, 85750, 85751, 85752, 85753, 85754, 85755, 85756, 85757, 85758, 85759, 85760, 85761, 85762, 85763, 85764, 85765, 85766, 85767, 85768, 85769, 85770, 85771, 85772, 85773, 85774, 85775, 85776, 85777, 85778, 85779, 85780, 85781, 85782, 85783, 85784, 85785, 85786, 85787, 85788, 85789, 85790, 85791, 85792, 85793, 85794, 85795, 85796, 85797, 85798, 85799, 85800, 85801, 85802, 85803, 85804, 85805, 85806, 85807, 85808, 85809, 85810, 85811, 85812, 85813, 85814, 85815, 85816, 85817, 85818, 85819, 85820, 85821, 85822, 85823, 85824, 85825, 85826, 85827, 85828, 85829, 85830, 85831, 85832, 85833, 85834, 85835, 85836, 85837, 85838, 85839, 85840, 85841, 85842, 85843, 85844, 85845, 85846, 85847, 85848, 85849, 85850, 85851, 85852, 85853, 85854, 85855, 85856, 85857, 85858, 85859, 85860, 85861, 85862, 85863, 85864, 85865, 85866, 85867, 85868, 85869, 85870, 85871, 85872, 85873, 85874, 85875, 85876, 85877, 85878, 85879, 85880, 85881, 85882, 85883, 85884, 85885, 85886, 85887, 85888, 85889, 85890, 85891, 85892, 85893, 85894, 85895, 85896, 85897, 85898, 85899, 85900, 85901, 85902, 85903, 85904, 85905, 85906, 85907, 85908, 85909, 85910, 85911, 85912, 85913, 85914, 85915, 85916, 85917, 85918, 85919, 85920, 85921, 85922, 85923, 85924, 85925, 85926, 85927, 85928, 85929, 85930, 85931, 85932, 85933, 85934, 85935, 85936, 85937, 85938, 85939, 85940, 85941, 85942, 85943, 85944, 85945, 85946, 85947, 85948, 85949, 85950, 85951, 85952, 85953, 85954, 85955, 85956, 85957, 85958, 85959, 85960, 85961, 85962, 85963, 85964, 85965, 85966, 85967, 85968, 85969, 85970, 85971, 85972, 85973, 85974, 85975, 85976, 85977, 85978, 85979, 85980, 85981, 85982, 85983, 85984, 85985, 85986, 85987, 85988, 85989, 85990, 85991, 85992, 85993, 85994, 85995, 85996, 85997, 85998, 85999, 86000, 86001, 86002, 86003, 86004, 86005, 86006, 86007, 86008, 86009, 86010, 86011, 86012, 86013, 86014, 86015, 86016, 86017, 86018, 86019, 86020, 86021, 86022, 86023, 86024, 86025, 86026, 86027, 86028, 86029, 86030, 86031, 86032, 86033, 86034, 86035, 86036, 86037, 86038, 86039, 86040, 86041, 86042, 86043, 86044, 86045, 86046, 86047, 86048, 86049, 86050, 86051, 86052, 86053, 86054, 86055, 86056, 86057, 86058, 86059, 86060, 86061, 86062, 86063, 86064, 86065, 86066, 86067, 86068, 86069, 86070, 86071, 86072, 86073, 86074, 86075, 86076, 86077, 86078, 86079, 86080, 86081, 86082, 86083, 86084, 86085, 86086, 86087, 86088, 86089, 86090, 86091, 86092, 86093, 86094, 86095, 86096, 86097, 86098, 86099, 86100, 86101, 86102, 86103, 86104, 86105, 86106, 86107, 86108, 86109, 86110, 86111, 86112, 86113, 86114, 86115, 86116, 86117, 86118, 86119, 86120, 86121, 86122, 86123, 86124, 86125, 86126, 86127, 86128, 86129, 86130, 86131, 86132, 86133, 86134, 86135, 86136, 86137, 86138, 86139, 86140, 86141, 86142, 86143, 86144, 86145, 86146, 86147, 86148, 86149, 86150, 86151, 86152, 86153, 86154, 86155, 86156, 86157, 86158, 86159, 86160, 86161, 86162, 86163, 86164, 86165, 86166, 86167, 86168, 86169, 86170, 86171, 86172, 86173, 86174, 86175, 86176, 86177, 86178, 86179, 86180, 86181, 86182, 86183, 86184, 86185, 86186, 86187, 86188, 86189, 86190, 86191, 86192, 86193, 86194, 86195, 86196, 86197, 86198, 86199, 86200, 86201, 86202, 86203, 86204, 86205, 86206, 86207, 86208, 86209, 86210, 86211, 86212, 86213, 86214, 86215, 86216, 86217, 86218, 86219, 86220, 86221, 86222, 86223, 86224, 86225, 86226, 86227, 86228, 86229, 86230, 86231, 86232, 86233, 86234, 86235, 86236, 86237, 86238, 86239, 86240, 86241, 86242, 86243, 86244, 86245, 86246, 86247, 86248, 86249, 86250, 86251, 86252, 86253, 86254, 86255, 86256, 86257, 86258, 86259, 86260, 86261, 86262, 86263, 86264, 86265, 86266, 86267, 86268, 86269, 86270, 86271, 86272, 86273, 86274, 86275, 86276, 86277, 86278, 86279, 86280, 86281, 86282, 86283, 86284, 86285, 86286, 86287, 86288, 86289, 86290, 86291, 86292, 86293, 86294, 86295, 86296, 86297, 86298, 86299, 86300, 86301, 86302, 86303, 86304, 86305, 86306, 86307, 86308, 86309, 86310, 86311, 86312, 86313, 86314, 86315, 86316, 86317, 86318, 86319, 86320, 86321, 86322, 86323, 86324, 86325, 86326, 86327, 86328, 86329, 86330, 86331, 86332, 86333, 86334, 86335, 86336, 86337, 86338, 86339, 86340, 86341, 86342, 86343, 86344, 86345, 86346, 86347, 86348, 86349, 86350, 86351, 86352, 86353, 86354, 86355, 86356, 86357, 86358, 86359, 86360, 86361, 86362, 86363, 86364, 86365, 86366, 86367, 86368, 86369, 86370, 86371, 86372, 86373, 86374, 86375, 86376, 86377, 86378, 86379, 86380, 86381, 86382, 86383, 86384, 86385, 86386, 86387, 86388, 86389, 86390, 86391, 86392, 86393, 86394, 86395, 86396, 86397, 86398, 86399, 86400, 86401, 86402, 86403, 86404, 86405, 86406, 86407, 86408, 86409, 86410, 86411, 86412, 86413, 86414, 86415, 86416, 86417, 86418, 86419, 86420, 86421, 86422, 86423, 86424, 86425, 86426, 86427, 86428, 86429, 86430, 86431, 86432, 86433, 86434, 86435, 86436, 86437, 86438, 86439, 86440, 86441, 86442, 86443, 86444, 86445, 86446, 86447, 86448, 86449, 86450, 86451, 86452, 86453, 86454, 86455, 86456, 86457, 86458, 86459, 86460, 86461, 86462, 86463, 86464, 86465, 86466, 86467, 86468, 86469, 86470, 86471, 86472, 86473, 86474, 86475, 86476, 86477, 86478, 86479, 86480, 86481, 86482, 86483, 86484, 86485, 86486, 86487, 86488, 86489, 86490, 86491, 86492, 86493, 86494, 86495, 86496, 86497, 86498, 86499, 86500, 86501, 86502, 86503, 86504, 86505, 86506, 86507, 86508, 86509, 86510, 86511, 86512, 86513, 86514, 86515, 86516, 86517, 86518, 86519, 86520, 86521, 86522, 86523, 86524, 86525, 86526, 86527, 86528, 86529, 86530, 86531, 86532, 86533, 86534, 86535, 86536, 86537, 86538, 86539, 86540, 86541, 86542, 86543, 86544, 86545, 86546, 86547, 86548, 86549, 86550, 86551, 86552, 86553, 86554, 86555, 86556, 86557, 86558, 86559, 86560, 86561, 86562, 86563, 86564, 86565, 86566, 86567, 86568, 86569, 86570, 86571, 86572, 86573, 86574, 86575, 86576, 86577, 86578, 86579, 86580, 86581, 86582, 86583, 86584, 86585, 86586, 86587, 86588, 86589, 86590, 86591, 86592, 86593, 86594, 86595, 86596, 86597, 86598, 86599, 86600, 86601, 86602, 86603, 86604, 86605, 86606, 86607, 86608, 86609, 86610, 86611, 86612, 86613, 86614, 86615, 86616, 86617, 86618, 86619, 86620, 86621, 86622, 86623, 86624, 86625, 86626, 86627, 86628, 86629, 86630, 86631, 86632, 86633, 86634, 86635, 86636, 86637, 86638, 86639, 86640, 86641, 86642, 86643, 86644, 86645, 86646, 86647, 86648, 86649, 86650, 86651, 86652, 86653, 86654, 86655, 86656, 86657, 86658, 86659, 86660, 86661, 86662, 86663, 86664, 86665, 86666, 86667, 86668, 86669, 86670, 86671,	

WDC-A, OCEANOGRAPHY DATA INFORMATION

COUNTRY/ CATALOGUE NUMBER	COUNTRY/ SHIPFORMED STATION	START DATE	END DATE	HRS REL	TYPES			OBSERVATIONS			DATA CENTER REFERENCE NUMBER	REMARKS			
					OCEANOGRAPHIC STAS.	SERIAL STAS.	DEPTH M	BATHY- THERMO- GRAPH	CURRENTS	BIO- LOGICAL			METEORO- LOGICAL	SEA SURFACE	
124.01 F-26	KEIFU MARU	21/06/86	23/11/86	50 52 54 56 57a				MTB-79				S	Publication 24.07-073	Cruise KER Period: 21/6-22/7/86 and 31/7-23/11/86	
124.02 B-58	OSHORO MARU	25/11/86	07/09/87	43 45b 46 47 48 49 50 51 52 53 54 55 56 57a 57b	133 †	T, S, sig-t, SW, Oxy, PO ₄ , AD, PO ₄ , NO ₂ , NO ₃ , Si	20-1500	1500		Phy-B Zoo-15 Pigm-15	Wd, W, Ta, Tw, Bar	T, W, Col, Tra	Publication 24.04-040	Cruises 16, 17, 18, 19	
124.02 C-11	HOKUSEI MARU	23/01/87	27/10/87	52 57a 57b	134	T, S, sig-t, SW, AD TherAtom,	50-950	953	XTB-22			Wd, W, Ta, Tw, Bar	S	Publication 24.04-040	Cruises 33, 34, 35, 36
124.05 B-24	ANAGI MARU, ASAMA MARU, KAWAOKA MARU No. 2, FUSAMI MARU, FUSAMI MARU No. 2, KAIKO MARU, KAIKO MARU No. 2, SHIONAKI MARU, SHIONAKI MARU, SOYO MARU, SURUGA MARU, USHIO	01/01/84	22/12/84	56 57a †	1, 704 †	T, S	20-600	700	DTB-721	Surf-CEK -516	Wd, W, Ta, Clid, Bar	T, S Wd, Col, Tra	Publication 24.06-058	914 STD stations	
124.08 D-73	KOFU MARU	21/01/86	28/09/86	52 54 57a	125	T, S, sig-t, AD, Oxy, PO ₄ , Protal, NO ₂ , NO ₃ , NH ₃ , pH, Heavy Metal Hydrocarbon	50-1300	2674	MTB-193	Surf-CEK -285	Wd, W, Ta, Tw, Clid, Bar, Vis	S Wd, Col, Tra	Publication 24.07-073		
124.08 D-74	KOFU MARU	04/10/86	07/11/86	52 57a	31	T, S, sig-t, AD, Oxy, PO ₄ , Protal, NO ₂ , NO ₃ , pH, Heavy Metal, Hydrocarbon	100-1370	1385	MTB-100	Surf-CEK -60	Wd, W, Ta, Tw, Bar, Vis	Wd, Col, Tra	Publication 24.07-073	Cruise KER	
124.09 A-88	SHUREPU MARU	04/02/86	02/09/86	53 56	44	T, S, sig-t, AD, Oxy, PO ₄ , Protal, NO ₂ , NO ₃ , pH, Heavy Metal, Hydrocarbon	15-1200 3400-3500	3519	MTB-90	Surf-CEK Phy-10 Zoo-10 Sub-69 Pigm-25	Wd, W, Ta, Tw, Clid, Bar, Vis	S Wd, Col, Tra	Publication 24.07-073	Period: 4/2-4/3/86 and 31/8-2/9/86	
124.09 A-89	SHUREPU MARU	18/04/86	22/10/86	53 56 57a	99	T, S, sig-t, AD, Oxy, PO ₄ , Protal, NO ₂ , NO ₃ , pH, Heavy Metal, Hydrocarbon	15-1400, 3200-3800	3851	MTB-108	Surf-CEK Phy-30 Zoo-30 Pigm-15	Wd, W, Ta, Tw, Clid, Bar, Vis	S Wd, Col, Tra	Publication 24.07-073	Cruise KER	

* DATA FOR THIS CRUISE REPRESENT AN ADDITION TO DATA PREVIOUSLY RECEIVED BY WDC-A, OCEANOGRAPHY.
† DENOTES DATA OBTAINED BY ELECTRONIC IN-SITU CONDUCTIVITY/SALINITY/TEMPERATURE/DEPTH (CTD/STD) SENSORS.
‡ INDICATES MACHINE PROCESSED DATA THAT CORRESPONDS TO THE DATA CENTER REFERENCE NUMBER.
†† FOR ADDITIONAL DESCRIPTIVE REMARKS PLEASE SEE THE REMARKS SECTION.

WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ OCEANIC NUMBER	COUNTRY/ SHOVED STATION	START DATE	END DATE	TYPES OF OBSERVATIONS				OBSERVATIONS				DATA CENTER REFERENCE NUMBER	REMARKS
				REG.	NO. OF STAS.	PHYS. & CHEM. DATA	SAMPLE DEPTHS	BATHY- THERMO- GRAPH	CURRENTS	BIO- LOGICAL	METEORO- LOGICAL	SEA SURFACE	
124.10 D-77	CHOJU MARU	24/01/86	09/08/86	90 52 56	167	T, S, AD, Oxy, P, Si, Pctcal, NO2, NO3, PO4, Heavy Metal, Hydrocarbon	40-1100	2381	XTB-354 -204	Phys-36 Zoo-36 Plg-50	Wd, W, Ta, Tw, Cld, Bar, Vis	Sea, Col, Tza	Publication 24.10-073 Cruise KER
124.11 D-64	SEIJU MARU	07/02/86	15/10/86	52		slp-c, AD, PO4, NO2, NO3, Heavy Metal, Hydrocarbon				Phys-36 Zoo-36 Plg-50	Wd, W, Ta, Tw, Cld, Bar, Vis	Wd, Col, Tza	Cruises 86-02, 07 and 09, KER and 86-05 (Change 40)
124.13 B-22	MEIYO, ESAN, KAIYO, ISADU, INAKI, KAIYO, MASU, MATSUNO, NOTO, OKI, OZIMA, SATOMI, SHIMANO, SOYA, TENJO, TONARI, YAMOTO	15/01/85	28/11/85	90 52 54 56 57a		slp-c, AD, PO4, NO2, NO3, Heavy Metal, Hydrocarbon				Phys-36 Zoo-36 Plg-50	Wd, W, Ta, Tw, Cld, Bar, Vis	Wd, Col, Tza	Publication 24.10-073
124.13 B-23	MEIYO, ESAN, ETIZEN, ISADU, INAKI, KAIYO, MASU, MATSUNO, NOTO, OKI, OZIMA, SATOMI, SHIMANO, SOYA, TENJO, TONARI, YAMOTO	14/01/86	25/11/86	50 52 54 56 57a		slp-c, AD, PO4, NO2, NO3, Heavy Metal, Hydrocarbon				Phys-36 Zoo-36 Plg-50	Wd, W, Ta, Tw, Cld, Bar, Vis	Wd, Col, Tza	Publication 24.10-044
124.13 E-65	TAKUYO	07/01/85	25/01/85	56		slp-c, AD, PO4, NO2, NO3, Heavy Metal, Hydrocarbon				Phys-36 Zoo-36 Plg-50	Wd, W, Ta, Tw, Cld, Bar, Vis	Wd, Col, Tza	Publication 24.10-041
124.13 E-66	TAKUYO	06/02/86	16/03/86	50 52 54 56 57a 61a	256 1	slp-c, AD, PO4, NO2, NO3, Heavy Metal, Hydrocarbon	100-4500	4500	XTB-179 Surface- 1,082	Phys-36 Zoo-36 Plg-50	Wd, W, Ta, Tw, Cld, Bar, Vis	Wd, Col, Tza	Publication 24.10-042 Cruise WESTPAC 1986
124.13 E-67	TAKUYO	07/02/87	15/03/87	50 52 54 56 57a 61a	254 1	slp-c, AD, PO4, NO2, NO3, Heavy Metal, Hydrocarbon	300-4500	4513	XTB-158 Surf-850	Phys-36 Zoo-36 Plg-50	Wd, W, Ta, Tw, Cld, Bar, Vis	Wd, Col, Tza	Publication 24.10-043 Cruise WESTPAC 1986
124.13 GGP-17	SHOYO	10/04/85	26/11/85	52 54 56 57a	167 1	slp-c, AD, PO4, NO2, NO3, Heavy Metal, Hydrocarbon	50-4250	4250	XTB-413 Surf-603	Phys-36 Zoo-36 Plg-50	Wd, W, Ta, Tw, Cld, Bar, Vis	Wd, Col, Tza	Publication 24.10-041
124.13 GGP-18	SHOYO	31/05/86	27/11/86	90 52 54 56	287 1	slp-c, AD, PO4, NO2, NO3, Heavy Metal, Hydrocarbon	30-3700	4251	XTB-373	Phys-36 Zoo-36 Plg-50	Wd, W, Ta, Tw, Cld, Bar, Vis	Wd, Col, Tza	Publication 24.10-044 197 CTD stations

* DATA FOR THIS CRUISE REPRESENT AN ADDITION TO DATA PREVIOUSLY RECEIVED BY WDC-A. OCEANOGRAPHY.
 † DENOTES DATA OBTAINED BY ELECTRONIC, IN-SITU, CONDUCTIVITY/SALINITY/TEMPERATURE DEPTH (CTD/STD) SENSORS.
 ‡ INDICATES MACHINE PROCESSED DATA THAT CORRESPONDS TO THE DATA CENTER REFERENCE NUMBER.
 †† FOR ADDITIONAL DESCRIPTIVE REMARKS PLEASE SEE THE REMARKS SECTION.

WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ VESSEL NUMBER	COUNTRY/ SHIP NUMBER	START DATE	END DATE	OCEANOGRAPHIC TYPES OF OBSERVATIONS				BIO- LOGICAL	METEORO- LOGICAL	SEA SURFACE	DATA CENTER REFERENCE NUMBER	REMARKS
				IB NO OF REG	NO OF STAS.	PHYS. & CHEM. DATA	SAMPLE DEPTHS	BATHY- THERMO- GRAPH	CURRENTS			
124.21	A-26	05/01/84	11/12/84	52 57a	1,341	T, S †	50-500	1200 XTD-79 DTB- 17465	Surf-GEK -980	Wd, W, Ta, Cld, Bar	Publication 24,06-058	95 STD stations
124.22	A-24	04/02/84	05/12/84	52	1,259	T, S †	50-400	420 MTB-47 DTB-710		Wd, W, Ta, Cld, Bar	Publication 24,06-058	556 CTD/STD stations
124.23	A-27	06/01/84	26/07/84	50 53 56	4,612	T, S †	10-300	960 MTD-6 DTB-45	Surf-GEK -516	Wd, W, Ta, Cld, Bar	Publication 24,06-058	421 STD stations
124.24	B-47	22/06/84	28/07/84	50 56 57a	112	T, S, slip-t, TherAon, A)	50-1500	2000	Eggs-25		Publication 24,13-067	Cruise KIR-84-2
124.27	A-19	11/01/84	22/12/84	45a 45b 50 51a 57a 57b				MTD-546 DTB-886 XTD-485		Ta	Publication 24,06-058	Ship (continued): RINSE MARU NO. 1, SAGAMI MARU, SATSUMASUN MARU, SHINKAI MARU, SHINKO MARU, SHIRAKABA MARU, TOSAKEN MARU, UNRYU MARU, WAKACHIBI MARU, WAKATSUKI MARU, WAKATORI MARU
124.31	B-03	03/12/85	11/03/86	45a 45b 45c 45d 50	40 †	T, S, slip-t, AD, Oxy, POC, NO2, NO3, pH, SIO3, ph, SIO3, Heavy metal Hydrocarbon	170-4000	4526 XTD-119		Wd, W, Ta, Tw, Oxy, Cld, Vis Bar, Vls	Publication 24,22-018 24,22-022	Cruise JARE-27 14 CTD stations

* DATA FOR THIS CRUISE REPRESENT AN ADDITION TO DATA PREVIOUSLY RECEIVED BY WDC-A. OCEANOGRAPHY.

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WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ CATALOGUE NUMBER	COUNTRY/ SHIP OR FRED NAME	START	END	NO. OF OBS.	TYPES OF OBSERVATIONS				BIO- LOCAL	METEORO- LOCAL	SEA SURFACE	DATA CENTER NUMBER	REMARKS
					OCEANOGRAPHIC	SERIAL	STATIONS	BATHY- THERMO- GRAPHY					
137.06	Q-27	12/12/83	21/03/84	23a	134	(T, S, σ_t , SW, AD, V ₈ , Oxy, pH) 0	50-2000	2043				NODC 907147	Cruise 36
137.06	Q-28	03/09/84	25/11/84	23a	230	(T, S, σ_t , SW, pH) 0	50-2300	2438				NODC 907139	Cruise 38
137.06	Q-29	16/06/84	09/08/84	23a	227	(T, S, σ_t , SW, AD, V ₈ , Oxy, pH) 0	500-2000	2160				NODC 907148	Cruise 37
137.06	T-03	31/10/83	08/12/83	1	262	(T, S, σ_t , SW, AD, V ₈ , Oxy, pH) 0	10-100	300				NODC 907161	Cruise 23
137.06	W-01	06/03/80	13/04/80	56	21	(T, S, σ_t , SW, AD, V ₈ , Oxy) 0	200	200				NODC 907140, 907141	
137.06	X-01	01/10/83	28/10/83	288	121	(T, S, σ_t , SW, AD, V ₈) 0	375-800	815				NODC 907163	Cruise 7
137.10	RK-04	01/11/82	04/02/83	32a	84	(T, S, σ_t , SW, AD, V ₈) 0	150-1000	1084				NODC 907159, 907160	Cruise 17 Period: 1-22/11/82 and 24/1-4/2/83
137.10	RK-05	30/04/83	13/09/83	23a	137	(T, S, σ_t , SW, AD, V ₈) 0	60-800	842				NODC 907150-907153	Cruise 18
137.11	L-06	28/03/83	19/06/83	6	151	(T, S, σ_t , SW, AD, V ₈ , Oxy, S ₀₄) 0	100-1000	1046				NODC 907126	Cruise 30
137.15	B-05	20/12/82	09/04/83	23a	149	(T, S, σ_t , SW, AD, V ₈ , Oxy) 0	170-4400	4676				NODC 907164, 907165	

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0 DENOTES MACHINE PROCESSED DATA THAT CORRESPONDS TO THE DATA CENTER REFERENCE NUMBER.
TT FOR ADDITIONAL DESCRIPTIVE REMARKS PLEASE SEE THE REMARKS SECTION.

WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ CATALOGUE NUMBER	COUNTRY/ SHIP OR STATION	START DATE	BOQ DATE	HB REG	TYPES OF OBSERVATIONS				METEORO. LOGICAL	SEA SURFACE	DATA CENTER REFERENCE NUMBER	REMARKS
					NO. OF STAS.	PHYS. & CHEM. DATA	SAMPLE DEPTHS	BATHY- THERMO- GRAPH				
138.....	UNITED KINGDOM.....											
138.02 F-04	HECLA	07/02/66	19/02/66	32a	26	(T, S, V ₂ , Oxy, P ₀₄ , NO ₃ , SLO ₃) Ø	50-2800	2889			NODC 741528	
138.05 B-23	DISCOVERY	20/12/86	20/01/87	45a 45c 50	61 45c 50	T, S, sig-t, AD, SVA, V ₂ , Oxy, P ₂	1500-5100	5201			Publication 38.14-317	Cruise 164
138.05 B-24	DISCOVERY	26/02/84	23/03/84	23a	38	T, S, sig-t, SVA, AD, Oxy, P ₂	320-2000	5000			Publication 38.14-319	Cruise 145
138.10 A-03	CHALLENGER	11/05/87	03/06/87	6 23a	88 23a	T, S, sig-t, AD, SVA, TherAnom, P ₂	150-2000	2400			Publication 38.14-318	Cruise 15/87
138.10 B-02	CHARLES DARWIN	30/04/85	27/11/85	23a	15	T, S, sig-t, SVA, AD, Oxy, P ₂	3100-5200	5871			Publication 38.14-320	Cruises 3/85 and 9A/85A, 30A-10/5/85 and 17-27/11/85
139.....	UNITED STATES.....											
139.01 I-23	KNRR	02/04/81	17/10/81	5 6 15a 23a 23b	247 6 15a 23a 23b	(T, S, sig-t, SVA, V ₂ , Oxy, P ₀₄ , NO ₃ , SLO ₄) Ø	500-6000	6148			NODC 318657	Cruise 77
139.01 L-07	OCEANUS	19/01/83	17/05/83	23a 23b 32a 32b	94 316 32a 32b	T, S, sig-t, SVA, AD, P ₂ , Oxy, P ₀₄ , SLO ₃ , Alk, Tritium	240-5900	5987			NODC 328663	Cruise 133, Leg 7 222 STD stations (Charge 41)
139.04 B-25	T. G. THOMPSON	05/08/85	07/09/85	57a 57b	115 57b	T, S, sig-t, SVA, AD, P ₂ , Oxy, P ₀₄ , SLO ₃ , Alk, Tritium	240-5900	5987			Publication 39.01-305	Cruise TT 190
139.08 H-15	ALEXANDER AGASSIZ	06/01/76	10/05/76	57b	95	T, S, sig-t, SVA, AD	50-1480	1508			Publication 39.01-301	Cruises CalCOFT 7601, 7602, 7603, 7604 66 STD stations
139.08 H-16	ALEXANDER AGASSIZ	08/03/73	23/03/73	60	174	T, S, sig-t, TherAnom, NO ₃ , Oxy, P ₀₄ , NO ₃ , SLO ₃	20-1200	1516			Publication 39.01-303	Cruise 7303 79 CTD stations

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WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ CRUISE NUMBER	COUNTRY/ SHIP AND STATION	START DATE	END DATE	NO. OF STATIONS	OCEANOGRAPHIC INSTRUMENTS	TYPES OF OBSERVATIONS	BATHY- THERMO- GRAPH	CURRENTS	BIO- LOGICAL	METEORO- LOGICAL	SEA SURFACE	DATA CENTER REFERENCE NUMBER	REMARKS
139.08	H-17 ALEXANDER KAGSS12	08/04/74	13/11/74	60	155 t T, S, S sig-t, s TherAnom, TherAnom, PO4, NO2, NO3, SiO3	20-3000	3668			Wd, W	Wd	Publication 39,01-304	Cruises 7454, 7410 Period: 8/4-5/5/74 and 2/10-3/11/74 17 STD stations
139.08	M-04 ELLEN B. SCRIPPS	11/11/76	11/11/76	576	4 t T, S, S sig-t, s TherAnom, AD	325-346	349					Publication 39,01-301	Cruise CalCOFI 7611
139.08	V-08 NEW HORIZON	04/09/87	28/11/87	576	135 T, S, S sig-t, sVA, AD, Oxy, PO4, NO2, NO3, SiO3	50-570	893			Wd, W, Ta, Ta, Cld, Bar	Wd, Ta	Publication 39,01-302	Cruises CalCOFI 8709 and 8711 Period: 4-18/9/87 and 18-28/11/87
139.08	X-1 DAVID PHILLIP DOLPHIN	23/05/73	27/05/73	60	34 T, S, S TherAnom, AD	15-25	25			Wd, W, Ta, Ta, Cld, Bar	Wd	Publication 39,01-303	Cruise 7305
139.23	P-15 DELAWARE II	08/01/85	12/12/85	236	636 (T, S, sig-t, sVA, AD, Vs) Ø	10-300	312					NODC 31385- 31386, 31388-31389	Cruises 85-01, -03, -07, -10
143.02	R-11 PUSAN 852	03/12/87	13/12/87	51	56 t T, S	50-100	151			Wd, Ta, Bar	Wd		Cruise 8712, ICOS5
143.02	R-12 PUSAN 852	06/02/88	16/04/88	51	109 t T, S	30-150	217			Wd, Ta, Bar	Wd		Cruises 8802, 8804, ICOS5 Period: 6-30/2/88 and 4-16/4/88
143.02	R-13 PUSAN 852	06/06/88	20/10/88	51	168 t T, S					Wd, Ta, Bar	Wd		Cruises 8806, 8808, 8810, ICOS5
143.02	S-03 GANWON 854	07/02/86	25/04/86	52	68 T, S, sig-t, sVA, AD, Oxy	45-500	507			Wd, W, Ta, Cld, Bar	Wd, Col, Ta	Publication 43,02-070	
143.02	T-03 BUSAN 852	05/02/82	12/12/82	50	204 T, S, sig-t, sVA, AD, Oxy	30-125	150			Wd, W, Ta, Cld, Bar	Wd, Col, Ta	Publication 43,02-070	
143.02	U-03 OYINGRIK 853	05/02/86	21/12/86	52	258 T, S, sig-t, sVA, AD, Oxy	30-500	506			Wd, W, Ta, Cld, Bar	Wd, Col, Ta	Publication 43,02-070	
143.02	V-03 JEDONIK 855	21/02/86	12/12/86	51	228 T, S, sig-t, sVA, AD, Oxy	25-90	101			Wd, W, Ta, Cld, Bar	Wd, Col, Ta	Publication 43,02-070	
143.02	X-01 GANWON 867	07/06/86	15/01/87	52	136 T, S, sig-t, sVA, AD, Oxy	45-500	523			Wd, W, Ta, Cld, Bar	Wd, Col, Ta	Publication 43,02-070	
143.02	Y-01 INCHON 866	06/08/86	12/12/86	51	84 T, S, sig-t, sVA, AD, Oxy	30-50	75			Wd, W, Ta, Cld, Bar	Wd, Col, Ta	Publication 43,02-070	

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 (†† FOR ADDITIONAL DISSOLUTIVE REMAINS PLEASE SEE THE REMARKS SECTION.)

WDC-A. OCEANOGRAPHY DATA INFORMATION

COUNTRY/ CATALOGUE NUMBER	COUNTRY/ SHIP OR FIXED STATION	START DATE	END DATE	HB NO.	TYPES OF OBSERVATIONS				BIO- LOGICAL	METEORO- LOGICAL	SEA SURFACE	DATACENTER REFERENCE NUMBER	REMARKS
					REG.	NO. OF STAS.	PHYS. & CHEM. DATA	SERIAL STATIONS SAMPLE DEPTHS	BATHY- THERMO- GRAPH	CURRENTS			
206.08	CANADA..... Coastal and Light Stations	01/01/71	31/12/85	57b 59								Publication 06.17-126 *	* Period: Add 1985 (Change 38)
214.....	GERMANY (FEDERAL REPUBLIC).....												
214.01	BORKUMRIFF (LV), DEUTSCHE BUCHT (LV), KLEIN (LV), WESER (LV), KIEL (LV)	01/01/86	31/12/86	1 4		297	T, S	13-24	24	Surface- 8, 987	T, S Wa	Publication 14.02-178	
224.....	JAPAN.....												
224.01	A-10 Ocean Data Buoys	23/05/85	31/12/86	50 52 56 57a						Surface- 2, 363	Wd, Ta, Tw, Bar, 360 Rad Wa	Publication 24.07-072	
224.09	Buoy	28/12/85	13/02/86	80							T-1, 212	Publication 24.22-019	
239.....	UNITED STATES.....												
239.02	NEAH BAY, etc.	01/01/61	31/12/87	57b								Publication 34.01-307 *	* Period: Add 1987 (Change 40)
243.....	KOREA.....												
243.01	A-32 Ship not identified	02/02/86	30/12/86	50 51 52								Publication 43.02-070	
243.01	C-16 BUSUN 852	05/02/86	08/12/86	50 51 52		72	T, S, sig-t, SW, AW, Oxy	35-125	125		Wd, W, Ta, Clid, Bar	Publication 43.02-070	Cruise Korea-Japan Cooperative

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‡ INDICATES MACHINE PROCESSED DATA THAT CORRESPONDS TO THE DATACENTER REFERENCE NUMBER.

§ FOR ADDITIONAL DESCRIPTIVE REMARKS PLEASE SEE THE REMARKS SECTION.

PART III
REMARKS

REMARKS

106.09 C-15	SEA SURFACE: (T, S, sig-t, Vs)-13 (Single observations at bottom)
106.09 C-20	SEA SURFACE: S-17 (Single observations at various depths)
106.09 AA-09	SEA SURFACE: (T, S, sig-t, Vs)-103 (Single observations at bottom)
106.09 AA-10	SEA SURFACE: T-68 (Single observations at bottom)
106.09 AA-11	SEA SURFACE: T-69 (Single observations at surface or at bottom)
106.09 AA-12	SEA SURFACE: T-38 (Single observations at surface or at bottom)
106.10 F-03	SEA SURFACE: T-6 (Single observations at bottom)
106.10 F-05	SEA SURFACE: T-13 (Single observations at surface or at bottom)
106.10 F-07	SEA SURFACE: T-3 (Single observations at surface or at bottom)
106.10 G-01	SEA SURFACE: (T, S, sig-t, SVA, ΔD , Vs)-70 (Single observations at surface or at bottom)
106.10 G-02	SEA SURFACE: T-5 (Single observations at surface or at bottom)
106.10 G-03	SEA SURFACE: T-9 (Single observations at bottom)
106.10 G-04	SEA SURFACE: T-5 (Single observations at surface or at bottom)
106.10 G-05	SEA SURFACE: T-8 (Single observations at bottom)
106.10 G-06	SEA SURFACE: (T, S, sig-t, Vs)-37 (Single observations at bottom)
106.10 H-01	SEA SURFACE: T-4 (Single observations at bottom)
106.10 H-02	SEA SURFACE: (T, S, sig-t, SVA, ΔD , Vs)-56 (Single observations at bottom)

106.10 H-03 SEA SURFACE: (T, S, sig-t, SVA, ΔD , Vs)-32
 (Single observations at bottom)

106.10 H-04 SEA SURFACE: (T, S, sig-t, SVA, ΔD , Vs)-106
 (Single observations at bottom)

106.11 U-11 SEA SURFACE: (T, S, sig-t, Vs)-119 (Single
 observations at bottom)

106.11 U-12 SEA SURFACE: (T, S, sig-t, Vs)-82 (Single
 observations at bottom)

106.11 V-06 SEA SURFACE: (T, S, sig-t, SVA, ΔD , Vs)-179
 (Single observations at surface or at bottom)

106.11 V-07 SEA SURFACE: (T, S)-6 (Single observations at
 surface or at bottom)

114.11 B-17 SEA SURFACE: (T, S, Oxy)-32 (Single
 observations at bottom)

TRACK CHARTS

Track charts are available from WDC-A, Oceanography for cruises represented by the following Catalogue Numbers:

<u>WDC-A Catalogue No.</u>	<u>Page No.</u>
114.12 A-02	37
124.13 E-66	39
124.15 A-14	40
124.24 B-47	41
124.31 B-03	41
137.06 H-16	42
138.05 B-23	45
138.05 B-24	45
138.10 A-03	45
138.10 B-02	45
139.04 B-25	45
139.08 H-16	45
139.08 X-01	46
224.09	47

PART IV
DATA HOLDINGS OF
RNODC's AND
SPECIALIZED DATA CENTERS

DATA HOLDINGS OF RNODC's AND SPECIALIZED DATA CENTERS

This section of the Change Notice provides information on the availability of specialized data sets prepared by the various Responsible National Oceanographic Data Centers (RNODCs) and other Specialized Data Centers. Only those data sets that have actually been received by WDC-A, Oceanography are included in this section. WDC-A can provide magnetic tape copies of these data sets in the originator's format.

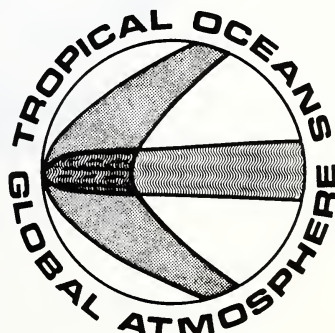
These data products are not described in the usual manner in the Catalogue portion of the Change Notice (except for certain separately-identified cruises that are also included in data sets such as FOY), as the data are not usually merged with the standard WDC-A, Oceanography data bases. Thus they constitute a suite of data products, prepared by RNODC's and other Specialized Data Centers, that are separate and distinct from the standard data types regularly catalogued in the Change Notices and normally available from WDC-A.

Such data products are not necessarily required to be routinely exchanged by the WDC's under normal international data exchange guidelines. They may be voluminous or costly to prepare and, thus, may be precluded from regular data exchanges between WDC's and their exchange cooperators. Data sets in automated form are available from the WDC's usually at a cost not to exceed the cost of reproduction and postage.

MEDALPEX



IGOSS



FGGE Operational Year Global Ocean Climate Data Base

The National Oceanographic Data Center (NODC) is pleased to announce the availability of the Global Ocean Climate Data Base compiled as part of its efforts as the Responsible National Oceanographic Data Center for the FGGE* Operational Year (RNODC/FOY). The Global Ocean Climate Data Base is a collection of Oceanographic data submitted to NODC by 17 different countries. Although the formal FGGE Operational Year was from 1 December 1978 to 30 November 1979, the data set covers the extended FOY period from 1 September 1978 to 29 February 1980.

The data base includes four types of data: (1) oceanographic hydrocast (bottle) data, (2) conductivity/salinity-temperature-depth (C/STD) data, (3) expendable bathythermograph (XBT) data, and (4) Eulerian current

(current meter) data. The data are recorded on magnetic tape in two different formats: (1) the Intergovernmental Oceanographic Commission General Exchange Format 3 (GF3) and (2) NODC archive formats (different format for each of the four types of data). In GF3 the data base comprises eight magnetic tapes; in the NODC formats the data base comprises four tapes.

The FGGE Operational Year was the culmination of a series of international ocean/atmosphere research programs conducted in the 1970's. This effort, in turn, was a steppingstone toward the increasingly ambitious and large-scale research and monitoring programs of the 1980's and 1990's that are directed toward fuller understanding of tropical dynamics and their influence on global ocean/atmosphere phenomena.

**FGGE = First GARP Global Experiment, also known as the Global Weather Experiment. GARP = Global Atmospheric Research Program.*



The FGGE/FOY Data Base

The FGGE/FOY Global Ocean Climate Data Base compiled by the RNO DC contains : 10,413 Oceanographic hydrocast (bottle) stations; 4,030 CTD/STD casts; 28,733 expendable bathythermograph (XBT) temperature

profiles; and 294 months of time-series data from current meter moorings. The sources of these data are summarized in Table 1.

Table 1. FGGE Operational Year Global Ocean Climate Data Base

Country	Data Type			
	Oceanographic Stations (stations)	CTD/STD (stations)	XBT (stations)	Current Meter (meter-months)
Australia	--	--	2,754	--
Canada	324	--	507	--
People's Republic of China	318	--	--	--
Republic of the Congo	307	--	--	--
France	--	--	307	--
German Democratic Republic	74	--	--	--
Federal Republic of Germany	--	--	1,366	--
Ghana	335	--	--	--
Italy	--	--	55	--
Japan	1,138	--	832	--
Philippines	--	--	8	--
Poland	87	--	267	--
Republic of South Africa	--	--	56	--
Spain	--	--	180	--
UK	--	64	944	--
USA	1,271	3,966	20,727	294
USSR	6,559	--	730	--
TOTAL	10,413	4,030	28,733	294

Table 2 lists the number of tapes included in the data set. Customers may order the entire set of tapes or only the

tape(s) for one or more of the four different data types in either of the two format options.

Table 2. FOY Global Ocean Climate Data Tapes			
Data Type	Data Quantity	Number of Tapes	
		GF3 Format (1600 bpi)	NODC Format (6250 bpi)*
Oceanographic Station (hydrocast)	10,413 stations (128 cruises)	2	1
CTD/STD	4,030 stations (62 cruises)	1	1
XBT	28,733 stations (571 cruises)	3	1
Current Meter	294 months (27 meters)	2	1
TOTAL		8	4
*Data tapes in NODC archive formats are also available by special request in 1600 bpi density.			

Data Availability

Magnetic tape copies of the FOY Global Ocean Climate Data Base are available from the RNODC in either GF3 format or in NODC archive formats. Magnetic tape characteristics are: (1) GF3 format -- 9 track, 1600 bpi, ANSI/ASCII, non-labeled, record length = 1920, unblocked; (2) NODC formats -- 9 track, 6250 bpi, ANSI/ASCII, non-labeled, variable record length, maximum blocksize = 4,160 (oceanographic station and CTD/STD data), 2,600 (XBT data), and any multiple of 60 (current meter data).

Complete sets of tapes or individual tapes are available at the cost of tape reproduction from:

World Data Center A, Oceanography
NOAA
Washington, DC 20235
USA

Telephone: 202-673-5571 or FTS 673-5571

Electronic mail: *NODC.WDCA* on
TELEMAIL/Omnet

RNODC MEDALPEX (Sea Level)

Mediterranean Alpine Experiment Sea Level Data Set

In 1975, the IOC decided to support the development of an oceanographic program in the Mediterranean during the GARP Alpine Experiment (ALPEX). The MEDALPEX project took place between 1 September 1981 and 30 September 1982, with a special period of observation from 15 February 1982 to 30 April 1982. It was a multi-national project involving scientists from 7 countries.

The main purpose of MEDALPEX was to increase understanding of the effect of wind forcing on the dynamics of the western part of the Mediterranean Basin. Specific studies were undertaken, each having a particular scientific objective including:

1. The interrelationship between the general circulation and mesoscale eddies
2. Offshore dynamic response mechanisms under severe weather conditions
3. Storm surges and the piling up of water, especially in the Adriatic and Ligurian seas

The measurement of sea level was considered to be an important component of the observation program to support these studies. A wide range of other types of oceanographic data were also collected, including classical and synoptic meteorological measurements, data collected using remote sensing techniques and data from current meters, thermistor chains, waverider buoys, CTDs and XBTs.

The Permanent Service for Mean Sea Level (PSMSL) was requested by IOC to fulfil the role of the Responsible National Oceanographic Data Center for the MEDALPEX sea level data. The work was undertaken on behalf of PSMSL by the Marine Information and Advisory Service (MIAS) - U.K.'s National Oceanographic Data Center.

Sea level data were submitted to MIAS from 29 of the 40 MEDALPEX sites. An inventory of the data is given on the following page. Measurements from 28 of the sites were taken using conventional stilling wells and, with one exception, were supplied to MIAS as hourly values. Data from the remaining site, off the coast of Corsica, were collected by an Aanderaa water level recorder at half-hourly intervals.

INVENTORY OF DATA RECEIVED
BY MEDALPEX SEA LEVEL DATA CENTER

SITE	LATITUDE	LONGITUDE	START DATE	SERIES DURATION	CYCLE INTERVAL
	DDD MM.MH	DDD MM.MH	DD/MM/YY	WEEKS	SECS
CADIZ	36 32.0N	6 17.0W	01/09/81	56	3600
TARIFA	36 0.0N	5 36.0W	01/09/81	56	3600
GIBALTAR	36 8.0N	5 21.0W	01/09/81	56	3600
CEUTA	35 54.0N	5 19.0W	01/09/81	56	3600
ALGECIRAS	36 7.0N	5 26.0W	01/09/81	56	3600
PUERTOS BANUS	36 37.0N	4 55.0W		NO DATA	
MALAGA	36 43.0N	4 25.0W	01/09/81	56	3600
ALMERIA	36 49 7N	2 29.2W	14/08/81	58	3600
CARTEGENA	37 36.0N	0 59.0W		NO DATA	
ALICANTE I	38 20.3N	0 30.4W	23/08/81	60	3600
ALICANTE III	38 20.3N	0 30.7W	28/08/81	60	3600
PALMA DE MALLORCA	39 33.0N	2 38.0E	01/09/81	56	3600
BLANES	41 41.0N	2 48.0E		NO TIDE GAUGE	
ROSAS	42 15.0N	3 11.0E		NO TIDE GAUGE	
PORT VENDRES	42 31.0N	3 6.0E	28/12/81	39	3600
SETE	43 25.0N	3 43.0E		NO DATA	
FOS	43 25.0N	4 46.0E		NO DATA	
TOULON	43 7.0N	5 55.0E	30/08/81	56	3600
NICE	43 42.0N	7 16.0E	03/07/81	68	3600
MONACO	43 44.0N	7 25.0E	29/06/81	69	3600
OFFSHORE	42 34.8N	8 44.0E	06/04/82	18	1800
NEAR CALVI	42 34.8N	8 44.0E	29/07/82	9	1800
AJACCIO	41 55.0N	8 43.0E	30/08/81	49	3600
CAGLIARI	39 13.0N	9 8.0E		NO DATA	
SAVONA	44 18.0N	8 28.0E		NO DATA	
GENOVA	44 24.0N	8 54.0E	31/08/81	58	3600
LA SPEZIA	44 7.0N	9 48.0E		NO DATA	
LIVORNO	43 33.2N	10 18.2E	31/08/81	49	3600
CIVITAVECCHIA	42 5.7N	11 47.4E	25/08/81	22	3600
NAPOLI	40 50.4N	14 16.2E	31/08/81	56	3600
PALERMO	38 8.0N	13 23.0E		NO DATA	
ANCONA	43 37.0N	13 31.0E	01/09/81	56	3600
PTO CORSINI	44 35.0N	12 20.0E		NO DATA	
VENEZIA	45 26.0N	12 20.0E	01/01/81	104	3600
KOPER	45 33.0N	13 44.0E	28/02/82	9	3600
ROVINJ	45 5.0N	13 38.0E	28/02/82	9	3600
BAKAR	45 18.0N	14 32.0E	28/02/82	9	3600
ZADAR	44 5.4N	15 16.3E	28/02/82	9	3600
NOVALJA	44 33.3N	14 13.2E	28/02/82	9	3600
SPLIT	43 30.0N	16 26.0E	28/02/82	9	3600
DUBROVNIK	42 40.0N	18 4.0E	28/02/82	9	3600
BAR	42 5.0N	19 5.0E	28/02/82	9	3600

In compiling the dataset, MIAS translated all incoming data into a common format with elevation values standardized to meters and times to GMT. The data for each site were plotted as a time series and checks were carried out for gaps or constant values, spikes, spurious data or punching errors. Further checks were carried out by tidally analyzing and low pass filtering the data. Non-tidal fluctuations were investigated using principal component analysis. Qualifying information applicable to the data from each site was checked for inconsistencies and completeness, and appropriate documentation was stored with the data in the form of plain language records. The complete quality controlled dataset, including documentation, is available as a single magnetic tape formatted in GF3, the IOC's standard format for the exchange of oceanographic data. A copy of the magnetic tape may be obtained at a cost not to exceed the cost of reproduction and postage from:

World Data Center A, Oceanography
National Oceanic & Atmospheric Administration
Washington, D.C. 20235
U.S.A.

or

RNODC/MEDALPEX Sea Level Data
MIAS
Bidston Observatory
Merseyside L43 7RA
U.K.

TROPICAL OCEAN and GLOBAL ATMOSPHERE PROGRAMME TROPICAL SUBSURFACE DATA SET

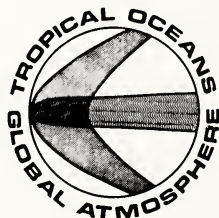
TOGA Tropical Subsurface Data Centre

The TOGA Tropical Subsurface Data Centre in Brest operates within the framework of both the IOC's International Oceanographic Data Exchange (IODE) system and the Joint IOC-WMO Integrated Global Ocean Services System (IGOSS). The Centre collects subsurface ocean observations for the tropical oceans (30°N-30°S) from the following sources:

1. tropical oceans observations from the IGOS network;
2. additional vertical temperature profiles from XBT's and from drifting or moored buoys with thermistor chains, not sent over the GTS;
3. time series of temperature and conductivity (salinity) at fixed depth from moored thermistor chains;
4. surface temperature and conductivity (salinity) data and vertical profiles of temperature and conductivity as from CTD's, bottle casts, and WCTD's; and
5. other subsurface ocean temperature and conductivity (salinity) measurements from process-oriented intensive oceanographic observation projects in the tropical oceans.

Initially, data are collected from radio transmissions, with fully digitized and quality controlled observations added with time.

The subsurface thermal data described above are analyzed and the Centre produces quality-controlled Level II-B data sets for the tropical oceans for the ten-year period (1985-1994). The Centre is also responsible for provision of these data sets on magnetic tape in GF-3 format to other TOGA Data Centres and to the World Data Centers, Oceanography at appropriate intervals.



WDC-A, Oceanography Support to TOGA

WDC-A, Oceanography serves as an archival center for the TOGA Tropical Subsurface Data Sets. Its responsibilities are to provide TOGA data sets to requesters in the international scientific community, at a cost not to exceed that of data reproduction and postage, and to provide copies of all TOGA data sets received to World Data Center B, Oceanography in exchange.

WDC-A, Oceanography provides additional data management support to the TOGA program by its contributions to the enhancement of global tropical thermal data bases. WDC-A has utilized the IOC's lists of Declared National Programs (DNP's) to identify selected cruises for which data were observed in the tropical oceans and, subsequently, requested the data. Report of Observations/Samples Collected by Oceanographic Programs (ROSCOP) marine data inventory forms have been used in the same manner to identify available tropical oceans data. The compilation of the Time Series Data Inventories of the world's oceans by WDC-A, has also resulted in some cases in the identification of available tropical ocean observations. WDC-A expects to utilize these tools increasingly in the future to acquire selected data sets intended to further enhance the tropical oceans data bases.

Climate researchers and modelling experts have identified the digitization of historical oceanographic observations as one of the key elements required in data management support for TOGA and other Global Change programs, such as GOFs and WOCE. Such data sets are frequently extremely useful in filling spatial or temporal gaps in existing digital data holdings. WDC-A, Oceanography's data archives contain data for a substantial number of observations in manuscript form that have never been processed. A significant portion of these could provide support to TOGA. For example, some Japan Fisheries Agency standard sections in the Western Pacific are in the TOGA area. Many of these manuscript data sets would be amenable to data entry by an optical scanning device. The possibility of support for procurement of such a device is being explored by WDC-A.

TOGA Tropical Subsurface Data Products

WDC-A receives Level II-B data sets from the Subsurface Data Centre in Brest for both Atlantic and Indian Oceans data, as previously described. Magnetic tape copies of the Level II-B data sets for the Atlantic and Indian Oceans are then provided to WDC-B, Oceanography in exchange. Magnetic tape copies of these data sets are available at the cost of tape reproduction from:

World Data Center A,
Oceanography
National Oceanic and
Atmospheric Administration
Washington, D.C. 20235 U.S.A.

TOGA Subsurface Data Centre
Centre IFREMER de Brest
BP 70
29263 Plouzane
France

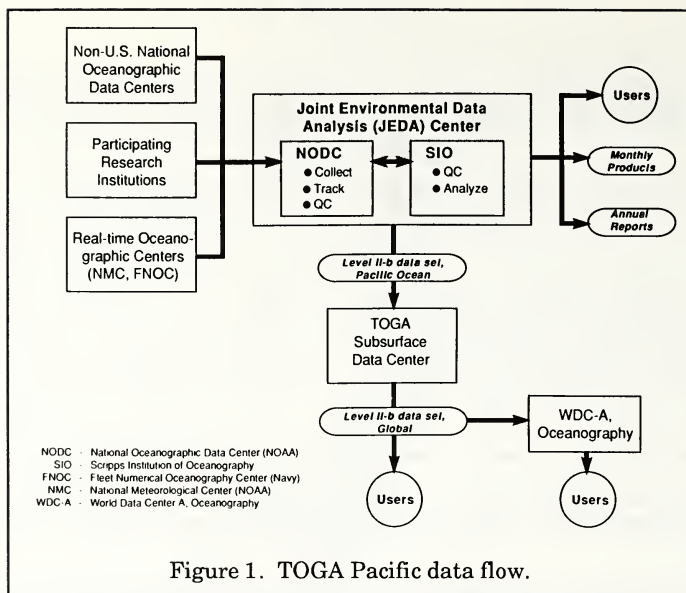


Figure 1. TOGA Pacific data flow.

WDC-A, by virtue of its collocation with the U.S. National Oceanographic Data Center (NODC), also has access to the Tropical Pacific Ocean data set prepared jointly by NODC and the Scripps Institution of Oceanography (SIO), serving as the Joint Environmental Data Analysis (JEDA) Center. JEDA tracks, acquires, quality controls, and merges all available subsurface thermal data for the Tropical Pacific. NODC assembles, reformats and initiates quality control of the data; SIO performs further quality control and analysis of the data. The TOGA Pacific data flow is depicted in Figure 1. Each yearly Level II-B Pacific Ocean data set undergoes the full spectrum of quality control and analysis by the JEDA Center. It is then converted to the GF-3 format and provided to WDC-A, which in turn provides a tape copy to WDC-B in exchange. The TOGA Pacific Data Sets are available on magnetic tape at the cost of tape reproduction from:

World Data Center-A, Oceanography
 NOAA
 Washington, D.C. 20235 U.S.A.

JEDA CENTER
 National Oceanographic Data
 Center
 NOAA
 Washington, D.C. 20235 U.S.A

JEDA Center
 Scripps Institution of
 Oceanography
 University of California
 La Jolla, CA 92093 U.S.A.

RNODC SOC

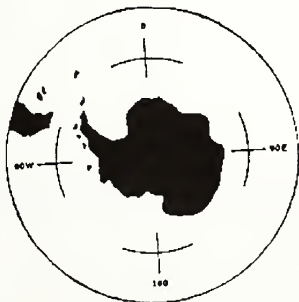
SOUTHERN OCEANS DATA SET

The RNODC/Southern Oceans (RNODC/SOC) was created in order to provide a regional data management and data information service for Southern Oceans physical and chemical oceanographic data. The RNODC was created under guidelines set forth in Recommendation XII.1 by the IOC's Technical Committee on International Oceanographic Data Exchange (IODE XII, Moscow 10-17 December 1986).

The Terms of Reference of the RNODC/SOC include the following responsibilities:

- Acquire, quality control, and store in standard format the physical and chemical data obtained by the international community from the cruises and research programmes carried out in the Southern Oceans;
- Co-operate closely with the World Data Centers, Oceanography by sending regular shipments (at least once a year), free of charge, of complete sets of physical and chemical data stored on magnetic tapes in GF3, and inventories, data summaries, and other data products related to the physical and chemical data from the Southern Oceans;
- Assist the World Data Centers by sending copies to them of any ROSCOP forms submitted to the RNODC-SOC;
- Co-operate with the BIOMASS Data Center, regarding exchange of data and inventories, as well as other data products.

The RNODC-SOC is located in and operated by the Argentine Oceanographic Data Center (CEADO).



RODC/SOC Oceanographic Data Set

The RNODC/SOC data set contains data for all available oceanographic stations for the Southern Oceans between 50° and the Antarctic Continent. Data for a total of 9,161 oceanographic stations taken during 248 Southern Oceans cruises are included in the data set. Seasonally, the data totals are 1,714 observations taken during the Austral Winter (April-September) and 7,447 observations taken during the Austral Summer (October-March). Southern Oceans observational data taken by 14 countries have been received by the RNODC.

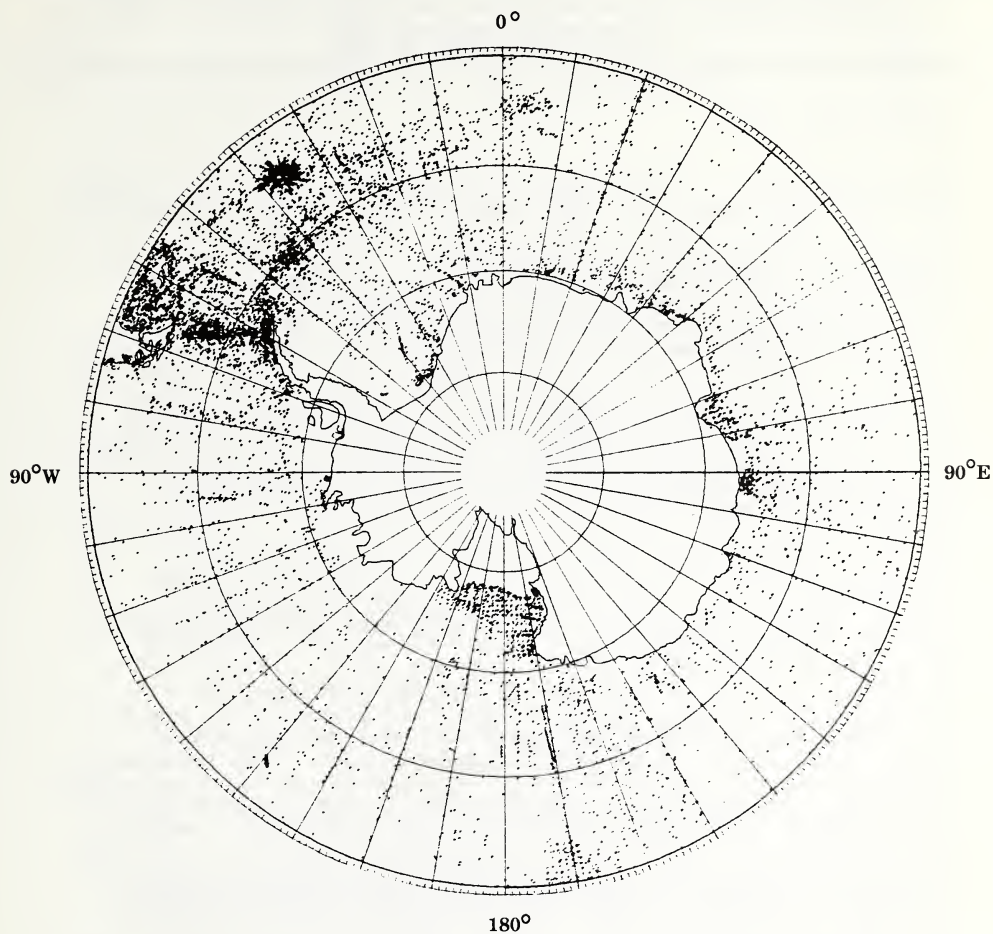
The RNODC/SOC data set is available from:

RNODC/SOC
Servicio de Hidrografia Naval (A.R.A.)
Centro Argentino de Datos Oceanographicos
Avda. Montes de Oca 2124
(1271) Buenos Aires
Republica Argentina

or

World Data Center A, Oceanography
National Oceanic & Atmospheric Administration
Washington, D.C. 20235 U.S.A.

SOUTHERN OCEANS OCEANOGRAPHIC STATION PLOT



This plot shows the locations of 9161 oceanographic data observations made in the Southern Oceans and registered in the RNODC/SOC master data file.

INTEGRATED GLOBAL OCEAN SERVICES SYSTEM DATA SET

IGOSS Background

The Integrated Global Ocean Services System (IGOSS) is a worldwide system for the rapid collection, exchange, and analysis of oceanographic data and the timely preparation and dissemination of ocean products and services. IGOSS was established to support oceanographic and meteorological research efforts by providing: (1) a global distribution of oceanographic observations, (2) a mechanism for the timely and effective exchange of data, and (3) the preparation of oceanographic analysis products capable of supporting global change and climate research studies. IGOSS products and services can be useful for input to large scale circulation models, for research survey planning, and for direct application in commercial fisheries, recreation, commercial shipping, and search and rescue efforts. Real-time ocean products currently available include sea surface and subsurface temperature analyses, as well as graphical depictions of mixed layer depths and ocean frontal positions. Additional analyses and data summaries available as delayed-mode products include: (1) ocean currents, (2) salinity, (3) distribution of pollutants, and (4) weekly and monthly temperature means. The IGOSS data are BATHY (profiles of temperature with depth) and TESAC (temperature/salinity/current profiles with depth).

The major operational elements of the IGOSS program are: (1) observing system, (2) data processing and services system, (3) telecommunication arrangements, (4) marine pollution monitoring, and (5) data archival and exchange. The organizational structure of the IGOSS data processing and services system consists of World Oceanographic Centers in Moscow and Washington and National and Specialized Oceanographic Centers in participating nations. Data from all cooperating nations are combined in standard formats at the World Oceanographic Centers, and then used as input to global and hemispheric analyses for improved weather forecasting, global climate studies, and a variety of products for oceanographic research uses. National Oceanographic Centers provide quality control for data from their country entering the international exchange system via a high speed global telecommunications link called the Global Telecommunication System (GTS) of the World Weather Watch.



IGOSS



Long-range data exchange and service arrangements and long-term archival functions for IGOSS data are performed by National Oceanographic Data Centers in Japan, the U.S.S.R., and the United States. These NODC's, serving as Responsible National Oceanographic Data Centers (RNODC's) for IGOSS, compile archives of IGOSS data and products, assume responsibilities for specified regions of the world oceans, and deal with problems of quality control. They maintain geographically sorted, updated magnetic tape files of observations received via the GTS.

RNODC's/IGOSS Terms of Reference

The terms of reference for RNODC's/IGOSS are as follows:

1. Acquire BATHY and TESAC datasets and sub-surface temperature data from drifting and moored buoys from IGOSS Specialized Oceanographic Centres (SOC) for area of responsibility; apply supplementary quality control to acquired data and provide services to users after 30 days from receipt of that data;
2. Acquire non-operational BATHY, TESAC, and sub-surface temperature data from drifting and moored buoys and/or datasets for area of responsibility; apply quality control to non-operational data, prepare integrated datasets, and provide services to users;
3. Maintain a data base and inventories for areas of responsibility;
4. Prepare products based on operational and non-operational IGOSS data, as appropriate; also, archive and make available to users, selected data products provided by SOCs and analysis centres;
5. Provide for exchange of IGOSS data in GF-3 format with other RNODC's or to users as requested;
6. Transmit datasets in GF-3 format, inventories of archived data, and selected data products to the WDC's annually;
7. Provide for exchange of documentation and software regarding quality control and processing procedures with other RNODC's, as possible;
8. Participate in efforts to monitor data flow, and participate, as feasible, in IOC training programmes;
9. Prepare inventories of available data sets for the RNODC's area of interest and transmit them to the IOC Secretariat semiannually.

RNODC/IGOSS-Japan

The RNODC/IGOSS-Japan is operated by the Japan Oceanographic Data Center (JODC), with support from the Japan Meteorological Agency (JMA), which serves as a Specialized Oceanographic Center (SOC) for IGOSS. At the SOC, systematic quality control of the collected BATHY/TESAC reports is made. The SOC compiles the IGOSS monthly summaries including maps showing the geographical distribution of BATHY/TESAC messages and numbers of messages of individual ships and sends them to the Secretariat of the IOC.

IGOSS data submitted by the SOC are stored in three formats at the RNODC/IGOSS. The first includes the original data file compiled on a semiannual basis. This file contains the collected and processed data from the GTS and other operational sources within the area of responsibility. The second contains the data and data inventory files recorded in a form of the SYNDARC Format, and is available to users as computer-generated data summaries, statistical presentations, and graphical plots, or in a medium which allows the user to further process the data using a personal computer. During the conversion process, minimum quality control procedures are applied to the original data based on IOC Manuals and Guides No. 3. The third is the JODC-formatted version of the data inventory file. From this file, data products such as data summaries and location plots of observations are provided to users, as well as to the IOC and WMO.

RNODC/IGOSS-U.S.S.R.

The RNODC/IGOSS-U.S.S.R. and SOC for IGOSS data was established in 1984 under the auspices of the All-Union Scientific Research Center for Hydrometeorological Information and Hydrometeorological Scientific Research Center of the USSR (Hydrometcentre USSR). The responsibilities of the RNODC/IGOSS include the collection of BATHY/TESAC messages and logs, quality control of the data, preparation of data sets on magnetic tape, and the development of products concerning availability and time-space data distribution. The RNODC/IGOSS also provides national and international users with copies of data, results of analyses, and with other products for its area of responsibility.

The responsibilities of the SOC include preparation, publication, and distribution of different types of operational oceanographic products on a regular basis including those distributed via FAX machines that are readily available to different groups of users.

These activities are carried out in accordance with the procedures spelled out in the IOC's Guide to Operational Procedures for the Collection and Exchange of Oceanographic Data (BATHY and TESAC), 1985 and the Guide to the IGOSS Data Processing and Services System, 1983.

RNODC/IGOSS-U.S.

The RNODC/IGOSS-U.S., located at the National Oceanographic Data Center (NODC), receives near real-time data weekly from the Ocean Products Center at Suitland, Maryland and the Ocean Applications Group in Monterey, California. These data are extracted from the Global Telecommunications System (GTS) on a daily basis for screening and editing. At the RNODC, the magnetic tapes containing the near real-time data sent by the two organizations are run through a series of computer programs to convert the data into NODC's Universal Bathythermograph (UBT) format. This data set is next sorted by date, time, position, and an indicator of the source of the data. The sorted file is then compared with existing observations and duplicates are eliminated.

The records retained are then sorted by reference number, date, and time to produce a cruise-ordered data set. From this final data set, inventory records are created and applied to NODC's Data Inventory Data Base (DINDB). These data are then merged into the RNODC/IGOSS Archive. The Archive is updated on a monthly basis in geographical sequence.

Data in the U.S. RNODC/IGOSS Archive are then available for international exchange and can be provided to users in a variety of forms ranging from magnetic tape copies to computer-generated data summaries, statistical analyses, and graphic plots.

Availability of IGOSS Data and Products through WDC A, Oceanography

Various RNODC/IGOSS data, analyses, and products are available through WDC-A, Oceanography. Upon request, WDC-A will provide magnetic tape copies of pertinent data products, or, alternatively, refer the requester to the appropriate IGOSS data source.

PENN STATE UNIVERSITY LIBRARIES



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